SIDDHA MATERIA MEDICA

(Mineral & Animal Kingdom)

DEPT. OF INDIAN MEDICINE & HOMOEOPATHY
CHENNAI - 106.

SIDDHA
MATERIA MEDICA

(MINERAL & ANIMAL SECTIONS)

In Tamil : Dr. R.Thiagarajan, LIM.,

In English :

Dr. Anaivaari R. Anandan, Ph.D.,

Dr. M.Thulasimani,M.D.(Pharmaco)

DEPARTMENT OF INDIAN MEDICINE & HOMOEOPATHY,

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TRANSLATION TEAM

EDITOR :

Dr. ANAIVAARI R.ANANDAN, Ph.D.,

SPECIAL OFFICER

(TRANSLATION & PUBLICATIONS WING)

TRANSLATOR:

DR. M.THULASIMANI, M.D (Pharmaco)

SCRUTINISER :

DR. K.V. VAITHEESWARAN, M.D(S)

STENO TYPIST:

TMT. T.V.LAKSHMI

COPYIST:

THIRU.K.MAHESWARAN

G.A.Rajkumar, I.A.S.,
Special Commissioner of Indian Medicine & Homoeopathy, Arumbakkam, Chennai - 600106

FOREWORD

The Siddha text entitled "Siddha Materia Medica - Mineral & Animal Sections" is being published by this Department for the first time in English. The Translation Wing headed by Dr. A.R Anandan has been taking strenuous efforts in bringing out the Tamil Siddha texts in English so as to popularise the Siddha system to the English speaking world.

So far, *'A Compendium of Siddha Doctrine', 'Siddha toxicology', History of Siddha Medicine* and *Siddha Principles of Social & Preventive Medicine'* have been published by the Translation Wing of this Department in English and other six works are under print. .

And now, this work orginally authored by Dr. R. Thiagarajan LIM, has been translated from Tamil into English by the Special Officer (Translation wing) Dr. A.R. Anandan, Ph.D., and Dr. M. Thulasimani, MD (Pharmaco) in simple lucid language.

I hope this work will certainly inspire and impress the aspirants of Siddha Medicine and will be of much help to the scholors and students of Indian Systems of Medicine as well as other systems of medicine.

I appreciate Dr. A.R. Anandan, Ph.D., Special Officer (Translation wing) a nd the Translator and all those who have been engaged in bringing out this excellent work in English and M/s. Sarathy Offset Printers, Sivakasi, who undertook the printing of this book in a perfect manner.

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G.A.Rajkumar.

EDITOR'S PREFACE

All substances whether animate or inanimate are to be considered as medicines, provided they are applied in the proper way and for specific purpose. Therefore Siddhars classified all the substances that are used as medicine.

Objects are known to be of three kinds: Animal products, Vegetable products and products appertaining to the earth.

Honey, secretions, bile, fat, marrow, blood, flesh, excreta, urine, skin, semen, bones, tendons, horns, nails, hoofs, hair, bristles and the bright pigment called korochanai, are the animal products used as drugs.

Metals and minerals such as gold, the ordure of metals, the five metals (silver, copper, lead, tin and iron), sand, lime, red arsenic, mercury, gems, salt, red chalk and antimony are the drugs appertaining to the earth.

It is interesting to note the close resemblance between the Materia Medica of Ancient India and those of Egypt and Mesopotamia, which also consisted of three groups : Vegetable products, Animal products and Mineral substances. There was also a close resemblance between the Materia Medica of the Egyptians and that of Mesopotamians.

The use of metals, minerals and particularly mercury in medicine is an ancient practice in India, which is unique to the Tamil Siddha System of Medicine, later inherited by Ayurveda.

Siddha, an ancient system, dating back to pre-vedic Ayurveda period and strongly Tantric in orientation, it got mixed up with the cult of the nine million Siddhas (Navakoti Siddhas). Siddhas,

who defied death preached a philosophy of transmuting the gross physical body composed of impure matter (asuddha maya) to the refined body of naturally pure matter, thereby rendering the body immutable and free from disabilities and limitations. 'Liberated while alive (Jeevan muktha) the person who is possessed of this refined body transacts freely with the world of impure matter as well as the world of pure matter ; he is distinguished by the skills (Siddhis) that facilitate these transactions'. (Ref :Prof.S.K.Ramachandra Rao, Encyclopaedia of Indian Medicine, 1985-Vol.I, P.90).

The employment of mercury and arsenic as medicinal agents, extractions from minerals, preparation of essences, calcinations, and use of animal products with healing properties distinguish the Siddha practitioners from that of Ayurveda.

It is noteworthy that the Tamilian alchemy works on the male-female(aan-penn) principle, the Siddha ideology looks upon the male-female symbolism in terms of vindhu-nadha differentiation. Pooneeru (water exuded from earth) is said to be the result of the union of male and female, full moon (male) acts on the earth(female) at some places in a peculiar way to produce this fluid.

This is whitish in colour. As an efflorescence from the soil its occurrence is noted in certain places like Thillaivanam, Tenkasi, Thiruvalangadu, Kalahasti, Vadamadurai, Sivagangai and Kanyakumari. It is to be collected in the early hours of the morning at these places, for it is the result of the action of fullmoon on earth. The collection is done in a ritualistic manner, and the preparation of Muppu (a preparation peculiar to Tamil alchemy) " the Philosopher's Stone", from it is even more heavily ritualistic.

Muppu:

The role of 'muppu' is of special interest in Siddha System. It is a preparation peculiar to Tamil alchemy, in making mercury pills of exceedingly high potency intended to prolong life.

The muppu is known in four kinds:

1. Vadha muppu (alchemy)
2. Vaidya muppu (medicinal)
3. Yoga muppu and Gnana muppu.

(3rd and 4th are meant to be used exclusively by Spritual aspirants).

The formulary of Siddha System includes several kinds of chendooram, confections (lehyams), pills(kuligai, mathirai) flavoured syrups (manappagu) different preparations of waxy consistency (mezhugu) medicated ghees, oils and butter (nei, ennei or thailam, vennei), several kinds of calx (parpam), distilled essences (theeneer) and other preparations (kaya kalpam, kattu and kazhangu).

The materials used are of vegetable origin as well as metals and minerals. Drugs in powder form (chooranam) are mostly herbal whereas the powders involving calcination contain mercury and sulphur. The pills contain purified metals, minerals and poisonous organic drugs. viz: Sulphur, mercury, cinnabar, yellow and red orpiments, lode-stone , iron-filings, calx of mica, silver, pearls, corals, copper pyrites, calomel, borax, aconite, opium, hemp and bile of goat and buffalo.

Nine kinds of salts(uppu), corrosive sublimates, camphor, calomel, arsenic, calx of copper-pyrites, vitriol, mercury, sulphur and cinnabar enter into the preparation of mezhugu along with various vegetable drugs.Medicated ghees are herbal and oils are mostly herbal, although salts, calomel, borax, orpiments, musk and even mercury and sulphur are sometimes added.

As the Siddha formulay is extensive, it utilizes not only the resinous exudates, rhizomes, dried sigma (saffron), wood-barks, leaves, roots and flowers of a wide variety of plants and trees but also animal secretions like civet and musk, shells and bones of aquatic animals

like cuttlefish,(kadal nurai), bone, conch-shell (sangu), oyster-shells, horns of deer(man kombu)and flesh of animals.

Importance of Mercury (Rasa) in Siddha:

It is said, Rasa school of medicine, first taught by Rudra and later explained by the Siddhas. Lord Siva alias Rudra, who visualized the Tamil Medicine is celebrated as " the first of Physicians" (Prathamo daivyo bhishak, Yajur Veda 16,5) and the best among physicians (bhishatatama , Rig Veda 2, 7, 16) in the Vedic Corpus (also refer Rig Veda 1, 43,2 ; 1,11,1 ; 2,33,2 ; 5,42,11; 6,46,3 and 74,2 ; Yajur Veda 3,59 ; Taitriya Samhita 4,5 etc.)

His approach was mainly alchemic and occult becomes evident in the works ascribed to Him in Sanskrit.

Rudra - Yamala - Tantra (Therapeutic uses of mercury)

Dhatu - Kalpa (Medical Properties of metals)

Parada - Kalpa (Preparation of mercury)

Haritala - Kapla (Preparation of Yellow orpiment)

Abhraka - Kalpa (Preparations from Mica)

As many as 60 mercurial preparations (rasas) are associated with His name.

The theoretical particulars of this school are close to Saiva Siddhanta, Rasasvata darsana and the Tantras. The legendary accounts of the life and work of 64 Siddhas (nine among them being most famous as nava natha Siddhas) who lived before the Christian era, have contributed significantly to the celebrity of this school. Among them two are of especially importance.

Bogar, supposed to be a Pre-Christian Taoist Chinese, came to India and settled down on the Palani Hills in Tamil Nadu. He has left his works on alchemy and medicine in Tamil language.

Another Chinese who accompanied him and became an authority on medical alchemy here is Saint Pulippani. Besides these two, Saint Tirumoolar, whom tradition assigns to 3000 BC, is associated with the founding of the Siddha School. Later, Nagarjuna, specifically designated as Siddha Nagarjuna, crystallized the Rasa School of thought as well as medicine.

This school became popular in two mainstreams: one mainly alchemic (transmutation of baser metals into gold) and the other chiefly therapeutic preparation of metallic and mercurial recipes for internal and external use).

So, the foundation for the school were laid in Pre- Vedic times. The knowledge of metals was extensive and fairly accurate during the dawn of Indian Civilization, according to Prof.S.K.Ramachandra Rao. (Ref : Encyclopaedia of Indian Medicine, 1985-Vol.I, P.90).

The receipes of this School were theoretically hailed as superior to the other kinds, for in this case a small dose of medicine would be enough to cure both chronic and acute diseases, health is restored quickly, dietary regimen is unnecessary, clinical examination of the dhosas and the dhatus becomes irrelevant and consideration of seasons and places is likewise unnecessary (Rasen dra- Sara-Samgraha)

Mercury is called as rasa, because it can liquefy all other metals; it can enhance the potency of any metal and it can banish all ailments, prevent old age and prolong life. Regarded as the seed of Siva, it occurs in five kinds :

i. Common mercury	(flawless but red in colour)
ii. Treated mercury	(brown in colour- most often used as therapeutically efficient flawless, coarse to touch and clear to look at)
iii.Dirt-laden mercury	(yellow in colour and needs 18 chemi cal treatments (Sutra) before it can be used in medicine).

iv. Extremely fluid mercury - with variegated colours like the peacock's tail.

Impure mercury when used internally can be dangerous and even fatal. The chemical treatments employed to purify mercury and render it therapeutically efficient are 18 in number, and involve a variety of apparatus.

Mercury is regarded as composed of all the five elements, for it is heavy (atomic weight.200) fluid in rmal temperature shining like molten gold, quick moving and becomes invisible when heated. It has all the six tastes, and can set right the disorders of the three humours, and is described as conductor of all. Treatment of mercury is directed towards purification as well as making it therapeutically effective.

According to Siddha texts, when mercury "swoons" (loses its fluidity) it can counteract all disease conditions; when it is bound (assumes gem like shape) , it produces miraculous power; and if it is killed (calcinated) it can prolong life indefinitely . In its normal condition, mercury is regarded as Brahma (Creative Power); when it is bound it is likened to Vishnu (Protective Power) and when it is killed, it is Siva (Destructive Power).

In the Siddha recipes, besides mercury, sulphur, cinnabar, gold, silver, zinc, lead, tin, mica, red oxide of lead, red orpiment, copper sulphate, alum, borax, colomel (rasa karpooram, mercurous chlorides), bees wax and asbestos are frequently used. Poisons like white arsenic and arsenic penta sulphide are also commonly included.

So, Siddha formulae are reputed to be remarkably effective. As there is an urgent need to translate the Siddha Materia Medica-Mineral & Animal Division, from Tamil into English in order to make the world aware and appreciate the contribution of Tamils to the medical field, we have taken up this work and completed the translation with great effort.

I hope this work will be of great use to introduce the Siddha recipes to the English speaking world and to the experts of other Systems of medicine.

As an initial effort, there were many difficulties in translating the ideas contained in the original Tamil work into English.

So, I humbly appeal to the readers to feel free to share their views and suggestions with me, for incorporating them in future editions.

I express my sincere thanks to **Thiru G.A.Rajkumar ,IAS**, Special Commissiner of Indian Medicine,with whose kind permission this book has been printed and published and for his valuable Foreword given for this work.

I express my thanks to the translator Dr.M.Thulasimani, M.B.B.S., M.D(Pharmo) for his sincere efforts in translating this in valuable work.

I have also to thank Dr.I.Sornamariammal, M.D.(Siddha), Joint Director, Mrs.T.V.Lakshmi, Steno-typist and Thiru.K.Maheswaran, Copyist who rendered all assistance to me in bringing out this work in a book form.

I thank M/s. Sarathy Offset Printers, Sivakasi, who did the printing of this book and completed the work in time. I also extend my special thanks to Mr. T. Anandam, M.Sc., Manager of M/s. Sarathy Offset Printers who coordinated the Printing work with this Department.

ANAIVAARI R.ANANDAN

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SIDDHA MATERIA MEDICA

I. INTRODUCTION

Our world is made of five basic material elements and the worldly objects are classified into two, namely... movable and immovable objects.

The above concept has rightly declared by an old wise Tamilian as follows:

"Classifying all movable and immovable things
Within the classification of five material elements..."

"ஐவகையெனும் பூத மாதியை வகுத்ததனுள்
அசரசர பேதமான யாவையும் வகுத்து..........."

The Earth "*Nilam*" revolves bearing all these objects. The Sky *(vinn)* provides space to accommodate the objects while the Water, "*Neer*", the Fire, "***Thee***" and the Air "***Kaatru***" bring them up and protect

Both movable and immovable objects may be classified under the following three major divisions:

1. Mineral kingdom
2. Vegetable kingdom, and
3. Animal kingdom (includes all othe r movable objects.)

Mineral objects can be classified into four kinds, viz.,.

1.	Metals *(ulogam)*	11
2.	Salts *(kara saram)*	25
3.	*Paadaanas* (Arsenic compounds)	64
4.	*Uparasas* (Secondary minerals)	120
	Total	220

As such, the total number of minerals and their products are 220 as explained in the following Tamil verse:

" கேளப்பா காரமொடு சாரந் தானும்
    கெட்டியா யிருபதுட னஞ்சு மாச்சு;
தாளப்பா வுபரசநூற் றிருப தாகும்.
    தாயான நவலோகம் பதினொன் றாச்சு;
நாளப்பா பாடாண வகையே தென்றால்
    நலமான வறுபத்து நால தாச்சு;
சூளப்பா விவையெல்லா மொன்றாய்ச் சேர்க்கத்
    தொகையுமொரு விருநூறோ டிருப தாச்சே."

In this context the material *'rasa'* named as *uparasa* is said to exist as an independent substance and also as an intermingled one with other substances (*sarakkil kalanthidu ceevan*). Hence, there is no substance in this world without *'rasa'* *(uparasa)* since there is no substance without *'Siva'* or *'Ceeven'* the vital force or life force.

1. METALS

According to Siddhars' classification there are eleven metals. They are........

1. Gold
2. Silver
3. Copper
4. Zinc
5. Steel (*ehgu*)
6. Iron
7. Bronze
8. Brass
9. Thara (alloy of copper and lead)
10. Lead
11. Stannum (tin.)

" உற்றுப்பார் தங்கம்வெள்ளி செம்பு நாகம்
    உருக்கிரும்பு வெண்கலம்பித் தளைத ராவும்,
நத்திப்பார் காரீயம் வெள்ளீ யந்தான்
    நலுமாகப் பதினொன்றாய்ப் பிரிந்த தையா!"

Thus says *Bogar* in salts section of his text *Karasára thurai*. These metals are classified as...

i. Natural metals and ii. Synthetic metals.

Natural metals are that which present in the earth as such, whereas synthetic metals are obtained by the combination of two or more natural metals.

Natural metals:

The following eight metals have been identified as Natural metals:

1. Gold
2. Silver
3. Copper
4. Steel (*ehgu*)
5. Iron
6. Lead
7. Stannum (tin)
8. Zinc.

Synthetic metals:

The following three metals are classified as synthetic metals:

1. Bronze
2. Brass
3. Alloy of copper and lead *(thara)*

Of the eleven metals, the Panchabootha metals, i.e. metals concerned with the five basic elements are:

1. Gold	Metal concerned with the earth *(Nilam)* element.
2. Lead	Metal concerned with water *(Neer)* element.
3. Copper	Metal concerned with fire *(Thee)* element.
4. Iron	*Metal concerned with air* *(kaatru)* element.
5. Zinc	Metal concerned with space *(vinn)* element.

பூதமென்ற சொன்னமது பூமி யாச்சு;
புகழான காரீயந் தண்ணீ ராச்சு
நாதமென்ற செம்பதுவே தீயு மாச்சு;
நலமான விரும்பதுவே வாயு வாச்சு;

வேதமென்ற நாகமது வாறு மாச்சு."

Thus explains Bogar in his text *'Karasara thurai'*.

But it should not be meant that only the above said five metals are known as *panchabootha* metals and other metals are not concerned with the *Pancha boothas*. In fact, all metals are concerned with the five basic elements . i.e. *Panchaboothas*

Dasanga Vaidya Nigandu mentions, gold, silver, copper, lead and bronze as **five metals.** But in ***Therar Sekarappa Nigandu*** the lead and bronze are replaced by iron and brass respectively, where gold, silver, copper, *iron and brass are considered as* ***five metals.***

Many authors have classified the metals into various groups as follows :

1. Triad *metals* (Three *kinds of metals)*
2. Pentad metals (Five kinds of metals- *panchalogam*)
3. Heptad metals (Seven kinds of metals)
4. Octad metals (Eight kinds of metals)
5. Nonary metals. (Nine kinds of metals)

I. Triad metals:

i. Gold ii. Silver iii. Copper

II. Pentad metals:

According to *Dasanga Vaidya Nigandu*, gold, *silver, copper*, tin and bronze are called *Panchalogam* i.e. the pentad metals.

" வெள்ளிபொன் செம்போ டீயம்
வெண்கலம் பஞ்சலோகம்"

But, according to *Therar Sekarappa*, gold, silver, iron, bronze and copper are the pentad metals.

" ஆடகமிர சிதமய மாயாபுரி சீருள்"

According to *Nigandu*....gold, silver, copper, iron and tin are *the pentad metals.This is explained in the* following Tamil verse :

" எதிரில்பொன் வெள்ளி செம்போ
டிரும்பீயம் பஞ்ச லோகம்"

III. Heptad metals:

The seven metals viz: gold, silver, copper, iron, tin , bronze and thara are called Heptad metals as stated in *Nigandu*,

"பொதிகஞ்சம் தராவுங் கூட்டிப்
புகன்றிடி னேழு லோகம்"

IV. Octad metals:

Gold, silver, copper, iron, bronze, *thara* (alloy of copper and lead) and zinc are called octad metals.

V. Nonary metals *(Nava logas)*:

Gold, silver, brass, copper, bronze, zinc,stannum (*velvangam*), lead (*karuvangam*) and iron are called Nonary metals. These are explained in the following Tamil verse:

" பூமேவு முயர்சரக் கானநவ லோகங்கள்
புகல்கிறேன் தங்கம் வெள்ளி
பித்தளை செம்புவெண் கலநாகம் வங்கமும்
புதுமைக்கா ரீயம் லோகம்
மாமேவு மொன்பதையு முயர்சுத்தி கோசலம்
வடிகாடி யெண்ணெ யுடனே
மாவெருக் கம்பால் பழச்சா றுடன்கூட
வண்மைசா ணிப்பா லினில்
தாமேவு மொவ்வொன்று மும்முறை யுருக்கியே
சாய்க்கவும் வலிவேறியே
தன்னுட் களங்கமுஞ் சுத்திதனி லற்றிடும்
சாற்றுமித னைக்கொல்விதம்
வேமேவு பூரமும் வீரகா ரச்சாரம்
வெள்ளைப்பா டாணம் சூதம்
வெடியுப்பு கந்திசரி யெடைபழச் சாற்றினில்
விதமா யரைத்துக் கொள்ளே."

One or more non – metallic secondary minerals *(uparasas)* are added to one or more metals which are also called as ***'Thiriloga Chendooram'*** and ***'Panchaloga Chendooram'***.

Thiriloga chendooram:

This is a combination of the three metals: Iron. mica and magnet.

Panchaloga chendooram:

This is a combination of gold, silver,copper, magnet and iron according to *Agathiyar Vaidya Rathina Churukkam.*

Note: As there are different schools of thought in grouping these *Panchaloga and Thiriloga Chendooras*, the above mentioned grouping of chendooras should be dealt with carefully.

2. *KARA SAARAM* (SALTS)

The salts are twentyfive in number as evidenced by the text Bogar 2000 and they are classified into .... .

i. Natural Salts and ii. Synthetic Salts.

Natural Salts:

Natural salts are 10 in number as evidenced by the text *Bogar's* 2000 as follows:

1. *Soodan*	Camphor
2. *Ceenam*	Sindh salt
3. *Pooneeru*	Efflorescence of fuller's earth
4. *Valaiyaluppu*	Salt extracted from fuller's earth
5. *Pachai karpooram*	Crude camphor
6. *Kalluppu*	Crystalline salt
7 .*Kariyuppu*	Sodium chloride
8. *Ponnambar*	Droppings of birds
9. *Meenambar*	Solid opaque, ash coloured substance found in sea
10.*Kadal nurai*	Cuttle-fish bone

Synthetic Salts:

Synthetic salts are 15 in number:

1. *Indhuppu*	Sindh salt

2. *Pottiluppu*	Nitrate of potash
3. *Venkaram*	Borax
4. *Thurusu*	Copper sulphate
5. *Evacharam*	Impure potassium carbonate
6. *Navacharam*	Ammonium chloride
7. *Saththi charam*	Salt containing salt petre, salt ammonia and common salt
8. *Egamba charam*	A kind of mineral
9. *Kenthi uppu*	Impure chloride of sodium - black salt - salt obtained from sulphur mixed with other ingredients.
10. *Thilaa lavanam*	Salt extracted from sesame plant - a powerful salt.
11. *Kenthi lavanam*	Sulphur salt
12. *Kaaichu lavanam*	Nitre - glass gale-fel vetri.
13. *Pida lavanam* -	A kind of mineral salt
14. *Sindhu lavanam*	Impure sodium chloride
15. *Kasi lavanam* -	Mixture of the three salts. Fuller's earth, nitre and sal ammoniac.

"அறைந்திட்டேன் காரசா ரத்தின் வைப்பை
அடங்கலாய் மூவஞ்சு தன்னைத் தானும்"

"தக்கவே காரசா ரத்தின் வைப்புச்
சமுசயங்க ளில்லாமல் மூவைந் தாகும்."

Though the salts mentioned in S.Nos.9 and 11 meant the same, they might have been differentiated according to synthetic preparations. It is worth to mention here that there are some slight variations in the nomenclatures of the above salts in the text ***"Bogar's Karasara thurai"***. It is also said that the author of *Bogar 7000*, and the author of *Karasara thurai* are different.

"காணுகின்ற வாதத்திற் காதி யான
காரமடா சமாதிநிலை வழலைப் பாம்பு

தோணுகின்ற பூவழலை சீனக் காரம்
துடியான சவுக்காரம் பூரஞ் சூடன்
வேணுமென்ற அமுரியுப்பு கல்லுப் போடு
வெடியுப்புப் பொடிந்துப்பு வளைய லுப்பு
பூணுகின்ற சவுட்டுப்புப் பொன்வெங்காரம்
பொன்னம்பர் மீனம்பர் பொருந்திக் கேளே."

"பொருந்துகின்ற நவச்சாரம் சத்திச் சாரம்
புகழான எவட்சாரம் காசிச் சாரம்
திருந்தியதோ ரேகம்பச் சாரத் தோடு
திலாலவணம் பிடாலவணம் தீர்க்க மாக
நருந்தியதோர் கந்தகமாம் லவணஞ் சிந்து
லவணமுட னாகாசத் தீயின் கம்பி
கருந்தொகையி லிவையிருபத் தைந்தும் வாத
காரசா ரத்துறையாய்க் கண்ட வாறே."

(Bogar's Karasara thurai)

PANCHA BOOTHA SALTS

(FIVE ELEMENTAL SALTS)

The *Pancha bhootha* salts are :

1. Earth *(nilam)* — *Kalluppu* - crystalline salt.
2. Water *(neer)* — *Sathicharam* - an acid salt
3. Fire *(thee)* — *Vediyuppu* - potassium nitrate
4. Air *(kaatru)* — *Seenam* - alum
5. Sky *(vinn)* — *Pooneeru* - fuller's earth.

"பலித்திட்ட சவுக்காரம் பஞ்ச பூதப்
பயனாகப் பண்ணியே பார்த்த நேர்மை
பெலித்திட்டபிருதிவிமண் கல்லுப் பாச்சு
பேரான வப்புசலஞ் சத்திச் சாரம்
தெலித்திட்ட தேயுவது வெடியுப் பாமே
செயநீர்தான் தீயென்றே செப்ப லாகும்
வலித்திட்ட வாயுவது காற்றுச் சீன
மகத்தான வாகாசம் பூநீ றாச்சே."

This is *Bogar's* school of thought. On the other hand, in the text *'Agathiyar Vazhalai Pannirandu'*, the *Pancha bootha* salts are mentioned in a different way as shown below:

1. Earth *(nilam)*	*Kambiyuppu*-nitre
2. Water *(Neer)*	*Paarai uppu* - rock salt
3. Fire *(Thee)*	*Kalluppu* - crystalline salt
4. Air *(Kaatru)*	*Indhuppu* - sindh salt
5. Sky *(Vinn)*	*Vazhalai uppu*

"காணப்பா கம்பியுப்பு மண்ண தாகும்
காரணமாம் பாறையுப்பு கருவாந் தண்ணீர்
பூணப்பா கல்லுப்பு தேயு வாகும்
புகழான இந்துப்பு வாயு வாகும்
ஊணப்பா ஆகாயம் வழலை யுப்பு
உத்தமனே ! இதையுமறிந் தொன்றாய்ச் சேரு
தூணப்பா துரும்பாகுந் துரும்புந் தூணாம்
துரியமனோன் மணித்தாயும் வாவென் பாளே."

Further, in *Bogar's* salts section of *Karasarathurai*, two salts are mentioned for each element as shown below:

1. Earth *(Nilam)*	*Kalluppu* -crystalline salt. - *Indhuppu*-sindh salt
2. Water *(Neer)*	Ammonium chloride *(navcharam)*, an acid salt *(sathi charam)*
3. Fire *(Thee)*	*Vediyuppu*- potassium nitrate, *savuttuppu.*
4. Air *(Kattru)*	*Vennkaram* (borax) - *thurusu* - blue vitriol (copper sulphate)
5. Sky *(Vinn)*	Camphor, *pooneeru.*

"பேணிப்பார் பஞ்சபூ தக்கா ரத்தைப்
பேசாமல் மறைத்துவைத் தார்சித்த ரெல்லாம்
தோணிப்பா ரிந்தநூல் தன்னிற் சொல்வேன்
துடியான காரசா ரத்தின் பூதம்
ஊணிப்பார் கல்லுப்பு மிந்தி னுப்பும்
என்மகனே ! பிருதிவியென் றியம்ப லாகும்

ஆணிப்பார் நவச்சாரம் சத்திச் சாரம்
அப்புவென்று சொல்வார்க ளறிந்து கொள்ளே,"

In addition to all these, the text *'Karisal'* mentions the following:

1. Earth *(Nilam)*	*Prithivi - vediyuppu-* potassium nitrate.
2. Water *(Neer)*	*Appu - kariyuppu -* sodium chloride
3. Fire *(Thee)*	*Theyu- kalluppu-* crystalline salt
4. Air *(Kattru)*	*Vayu- Indhuppu-* sindh salt
5. Sky *(Vinn)*	*Aagayam- pooneeru.*

"உப்பிலைம் பூத முரைக்குநன் றாய்க்கேளாய்
தப்பில் வெடிகரிகல் தாணிந்தா-மப்பூநீறு
ஐந்தாம் பிருதிவியப் பாய்தேயு வாயுவின்
சொந்தமுடன் கண்டறிந்து சொல்."

Therefore, there is no similarity between the elemental salts and the other grasped five salts. As such the elemental salts and the five grouped salts are different.

"வாதத்தில் வெடியுப்பும் பஞ்ச பூதம்
வண்மையாஞ் சவுக்காரம் பஞ்ச பூதம்
தீதற்ற செயநீரும் பஞ்ச பூதஞ்
செயமான குருவுக்கும் பஞ்ச பூதங்
கோதற்ற சடத்துக்கும் பஞ்ச பூதங்
குறியாகப் பழுப்பதற்கும் பஞ்ச பூதம்
காதற்ற களங்குக்கும் பஞ்ச பூதங்
காரியமாம் வாதமெல்லா மஞ்சு தானே."

But we should use the five elemental method for alchemy according to the *Bogar's* 7000-Book - I:

"காரசா ரத்தருமை காண்பவர்க் கேதெரியும்
பேரெறும்பு சிற்றெறும்பு பின்கிருமி-சேர்பிரண்டைச்
சாற்றாலு நாபிச் சரக்காலு மானவுப்பு
கூற்றான கார மாகும்."

"தேள்பூவை பாம்புதும்மை செவ்வியகாட் டாமணக்கு
வாளான சாம்பிராணி மற்றிதெலா- மாளவரு
பூநீறே சாரமிது போதுஞ் சரக்குவகைக்
காநீறு பேலுரிமை யாம்." *(Therar venba* : 171, 172)

The ancient physician *Therar,(*also known as *Theraiyar)* considered the salts derived from some plants and some toxic materials derived from some living organisms as *'karasara'*. He also considered *'Kara'* as the manifestation of God *'Siva'* and *'Sara'* as the manifestion of Goddess *'Sakthi'*.

3. PAADAANAS (PAASHAANAS)

(Arsenic compounds)

There are 64 kinds of *Paashaanas* which are classified into two types:-

1. Natural *Paadaanas* (32)
2. Synthetic *Paadaanas* (32)

NATURAL PAADAANAS (32)

1. *Karadaga*
2. *Kolakam*
3. *Sootha Paashaana*
4. *Miruthaaram*
5. *Gandhakam*
6. *Veeram*
7. *Vaikirantham*
8. *Thalambam*
9. *Amirtham*
10. *Sirabantham*
11. *Thotti*
12. *Kudhiraipal*
13. *Sangu*

14. *Gowri*
15. *Thuththam*
16. *Palandurugam*
17. *Kaantha paadaanam*
18. *Linga paadaanam*
19. *Sara kaandam*
20. *Thaalagam*
21. *Silai*
22. *Aavu pall*
23. *Saalaangam*
24. *Karpari*
25. *Karpaadaanam*
26. *Anjanam*
27. *Kachaalam*
28. *Seethangam*
29. *Silamatham*
30. *Kaarmukil*
31. *Appiragam*
32. *Vellai*

These are mentioned in the following Tamil verses :

" பாடினேன் பிறக்குமுப் பத்தி ரண்டு
    பாங்கான தாதுவுடைப் பெயரைக் கேளு
காடினேன் கறடகபா டாணத் தோடு
    கடிசான கோளகபா டாண மாகும்
தூடினேன் சூதபா டாணத் தோடு
    சொல்லான மிருதாரங் கந்தி யாகும்
வீடினேன் வீரமொடு வைகிராந் தந்தான்
    விளக்கமாந் தாலம்ப மமிர்த மாமே."

" ஆமென்ற சிரபந்தந் தொட்டி யோடு
    அழகான குதிரைப்பல் சங்கபா டாணம்

தோமென்ற கௌரியொடு துத்தபா டாணம்
    சொல்லான பலண்டுறுகங் காந்தபா டாணம்
தாமென்ற லிங்கப்பா டாணத் தோடு
    சரகாண்டந் தாளகந்தான் சிலையு மாகும்
வேமென்ற ஆவுபல்பா டாணத் தோடு
    விள்க்கமாஞ் சாலாங்கங் கற்பரியு மாமே."

" பரியான கற்பாடா ணந்தன் னோடு-
    பாங்கான அஞ்சனபா டாண மாகும்
கரியான கச்சால்ஞ்சீ தாங்கத் தோடு
    காணவே சிலாமதமாங் கார்முகிற்பா டாணம்
அரியான அப்பிரகபா டாணத் தோடு
    அடங்காத வெள்ளையென்ற பாடா ணந்தான்
முரியான முப்பத்தி ரண்டு தாது."

SYNTHETIC PAADAANAS (32)

1. *Puthottu thotti*
2. *Porthotti*
3. *Ceppu thotti*
4. *Erumainath thotti*
5. *Emasingi*
6. *Raththa singi*
7. *Mirudhar singi*
8. *Jaathi lingam*
9. *Karumugil*
10. *Thee murugal*
11. *Vellai*
12. *Savveeram*
13. *Kozhi thalai kendhi*
14. *Vaana kendhi*
15. *Aridhara vaippu*
16. *Pavala putru*
17. *Koda chori*

18. *Panja patchi*
19. *Kunguma paashaanam*
20. *Raththa paashanam*
21. *Thuththam*
22. *Thurusu*
23. *Rasitham*
24. *Thailam*
25. *Soodha paashaanam*
26. *Neelam*
27. *Gandhakam*
28. *Soraa paashaanam*
29. *Kaagam*
30. *Lavanam*
31. *Naga paashaanam*
32. *Indira paashaanam*

These are described in *Bogar's* 7000 as follows :

"தாதுதான் தந்திரமாய்ச் சித்தர் வைத்த
சாங்கமாம் பேரையினிச் சாற்றக் கேளு
தூதுதான் தொட்டிபுத் தோட்டுத் தொட்டி
சுருதியாம் பொற்றொட்டி செப்புத் தொட்டி
ஏதுதான் எருமைநாத் தொட்டி யோடே
ஏற்றுமாம் நாலுவகைத் தொட்டி யாச்சு
வாதுதான் சிங்கிவகை மூன்றுங் கேளு;
மகா ஏம சிங்கிரத்த சிங்கியாமே."

"சிங்கியென்ற மிருதாரு சிங்கியோடு
திறமான மூன்றுவகைச் சிங்கியாச்சு
தங்கியென்ற சாதிலிங்கம் கருமுகிற்றான்
தாக்கான தீமுறுகல் வெள்ளையாகும்
கொங்கியென்சவ் வீரங்கோழித் தலைக் கெந்தி
கொடிவாணக் கெந்தியரி தார வைப்பாம்

பங்கிபவ ளப்புற்றுக் கோடா சோரி
பஞ்சபட்சி குங்குமபா டாணந் தானே."

" தானென்ற ரத்தபா டாணந் துத்தம்
தாயான துரிசியோடு ரசிதந் தைலம்
தேனென்ற சூதபா டாண நீலம்
தேவிகந் தகஞ்சோர பாடாணங் காகம்
நானென்ற லவணமொடு நாகபா டாணம்
நல்லிந்திர பாடாண முப் பத்தி ரண்டும்
கோனென்ற சித்தர்சொல்லக் கேட்டு யானும்
குறிப்பறிந்தே யாயிரத்திற் பாடி னேனே."

Of these *paadaanas*, the following five have been specifically mentioned as *Pancha boodha paadaanam* in the text *"Pacchai Vettu 16"*.

1. Earth - *Prithivi*	*Arithaaram* - Yellow arsenic Trisulphate
2. Water- *Appu*	*Savveeram* - Hydrargyrum perchloride
3. Fire - *Theyu*	*Gowri* - Yellow oxide of arsenic.
4. Air - *Vayu*	*Vellai* - White arsenic.
5. Sky - *Vinn*	*Lingam* -Cinnabar.

" அரிதாரம் பிருதிவியே யாகிநிற்கும்
ஆனதொரு சவ்வீர மப்பு வாகும்
பெரிதான கௌரியோ தேயு வாகும்
பின்னுமோர் வெள்ளையோ வாயு வாகும்
அரிதான லிங்கமா காச மாகும்
அருத்தியாய்ப் பச்சையதா யாட லாகும்."

However, in *Nandheesar's 'Kalaignanam'*, the *Pancha boodha* Paadaanas have been mentioned in a different way.

1. Earth - *Prithivi*	*Tharam* - Yellow arsenic trisulphide.
2. Water - *Appu*	*Pooram* - Impure subchloride of mercury.

3. Fire - *Theyu* — *Veeram* - Hydrargyrum perchloride.

4. Air - *Vayu* — *Gowri* - Yellow oxide of arsenic

5. Sky - *Vinn* — *Lingam* - Cinnabar.

" மகத்தான பிருதிவி தார மாமே
ஆமப்பா அப்பதுதான் பூர மாகும்
அப்பனே! தேயுதான் வீர மாகும்
காமப்பா கௌரியது வாயு வாகும்
கண்மணியே! சத்தமது லிங்க மாகும்
நாமப்பா வைம்பூத சரக்கு மைந்தா !
நலமான சரக்குவழி நன்மை யாகும்."

Bogar's Karasarathurai also defines in a different manner:

1. Earth - *Prithivi - thotti, pavazhaputru, karmukhil, singi, theemurukal.*
2. Water- *Appu - kuthiraipal*, yellow oxide of arsenic, conch shell,white arsenic, *saavar poo.*
3. Fire - *Theyu- thalakam, tharam, kenthi, silai,veeram.*
4. Air - Vayu - copper sulphate *(thuththam), sara kaandam, panchapatchi, raththam, lingam.*
5. Sky - *Vinn - sootha paadaanam*- mercury.

" பாரப்பா பாடாணச் சரக்கில் பூதம்
பாடுகிறேன் தொட்டியுடன் பவழப் புற்று
ஆரப்பா கார்முகிலுஞ் சிங்கியோடு
அப்பனே தீமுறுக லஞ்சு மண்ணாம்
வேரப்பா குதிரைப்பல் கௌரி சங்கம்
வெள்ளையொடு சாவற்பூத் தண்ணீராகும்;
சீரப்பா தாளகமுந் தாரங் கந்தி
சிலைவீர மிவையைந்துந் தீய தாமே."

" தீயான துத்தமொடு சர காண்டம்
சிறந்த பஞ்ச பட்சிரத்தம் லிங்க மைந்தும்
வாயாரச் சொல்லுகிறேன் காற்ற தாகும்;
மக்களே! சூதமொன்று வெளிய தாகும்."

4. UPARASAS- 120

(SECONDARY MINERALS)

The term *rasa* will also denote *'Siva'*. As it is considered that there is no life without the union of *Siva*, there is also no drug without rasa. *Rasa* is found in excessive quantities in about 120 materials such as mercury and amber and in traces in other materials.

" தன்பருவ மலருக்கு மணமுண்டு வண்டுண்டு
தண்முகை தனக்கு முண்டோ ?"

As mentioned in Bogar's ***'Karasara thurai'*** the *uparasas* are 120 in number as follows:

1. *Kantham*
2. *Appiragam*
3. *Thurusu*
4. *Kalnaar*
5. *Ponnimilai*
6. *Karungal*
7. *Cengal*
8. *Sukkankal*
9. *Eerakkal*
10. *Soodaalaikkal*
11. *Karudakkal*
12. *Raasavarthakal*
13. *Pavazham*
14. *Vaidoorium*
15. *Pachchai*
16. *Neelam*
17. *Naagaravandu*
18. Karuvandu
19. *Aamai*
20. *Uvar mann*
21. *Karchuvadu*

22. *Ottin thool*
23. *Karpura silai*
24. *Kaavikkal*
25. *Suththa manal*
26. *Cemman*
27. *Sorna bedhi*
28. *Kalmadham*
29. *Vairam*
30. *Muthu*
31. *Neelanjanakkal*
32. *Erumbu*
33. *Maakkal*
34. *Theekkal*
35. *Poonagam*
36. *Indhira kopam*
37. *Komedhagam*
38. *Pushparagam*
39. *Muttai*
40. *Mayil*
41. *Elumbu*
42. *Nandu*
43. *Naththai*
44. *Maan kombu*
45. *Kalaimaan kombu*
46. *Maattu kombu*
47. *Aatu kombu*
48. *Yaanai kombu (thantham)*
49. *Kozhikkaal*
50. *Maatukkaal*
51. *Kurunthakkal*
52. *Pandri kombu*
53. *Asthi bedhi*
54. *Manjal kal*

55. *Thavalakkal*
56. *Maangisa bedhi*
57. *Chittakkal*
58. *Vellaikkal*
59. *Sukkhan*
60. *Silaavangam*
61. *Sevvattai*
62. *Sembu mann*
63. *Meen elumbu*
64. *Kasthoori*
65. *Thaen*
66. *Kadal nurai*
67. *Mayir*
68. *Karadi*
69. *Maanthalirkkal*
70. *Padigakkal*
71. *Thavalai*
72. *Kadal paasi*
73. *Saalikiraamam*
74. *Kazhudhai vandu*
75. *Naaga pachchai*
76. *Karumanal*
77. *Vangamanal*
78. *Kaanthakkal*
79. *Emasilai*
80. *Ema mann*
81. *Naaga manal*
82. *Eeya manal*
83. *Naaykattam.*
84. *Pandri mul*
85. *Elimul*
86. *Vangasilai*
87. *Naagasilai*

88. *Mantharasilai*
89. *Mul changu*
90. *Maangisa silai*
91. *Maragadham*
92. *Kuruvandu*
93. *Kendasilai*
94. *Kakasilai*
95. *Eeya silai*
96. *Rasitha silai.*
97. *Muthu chippi*
98. *Pall*
99. *Uloga manal*
100. *Kilinjil*
101. *Sembu malai*
102. *Uram*
103. *Vengala malai*
104. *Valappakkal*
105. *Velli manal*
106. *Aya silaikkal*
107. *Thimingilam*
108. *Paerosanai*
109. *Tharamalai*
110. *Pitthalai malai*
111. *Kaandaa miruga kombu*
112. *Putraampazham*
113. *Kulavi kootumann*
114. *Nagach chattai*
115. *Puraavecham*
116. *Min minipoochi*
117. *Vaikkirantham*
118. *Anna bedhi*
119. *Saathira bedhi*
120. *Maanikkam*

It should be noted that there are differences between *Kantham* and *Kaanthakal*, *Sukkan* and *Sukkankal*. *Pachai*,*Naagappachchai* and *Maragadham*.

" கண்டுகொள் ளுபரசத்தின் வகையைச் சொல்வேன் :
காந்தமோ டப்பிரகந் துருசு கன்னார்
தொண்டர்களே! பொன்னிமிளை கருங்கல் செங்கல்
சுக்கான்க லீரக்கல் சூடா லைக்கல்
பண்டுதான் கருடபட்சி ராச வர்த்தம்
பவழவை டூரியமும் பச்சை நீலம்
உண்டுநா கரவண்டு கருவண்டாமை
உவரிமண் கற்சுவடு ஒட்டின் தூளே

"தூளான கர்ப்பூரச் சிலைகற் காவி
சுத்தமணல் செம்மண்ணுஞ் சொன்ன பேதி
நீளான கல்மதமும் வயிர முத்து
நீலாஞ்ச னமெறும்பு மாக்கல் தேக்கல்
கோளான பூநாக மிந்த்ர கோபம்
கோமேத கம்புட்ப ராக முட்டை
வாளான மயிலெலும்பு நண்டு நத்தை
மான்கொம்பு கலைக்கொம்பு மாட்டுக் கொம்பே."

PANCHA BOOTHA UPARASA

1. ***Prithivi:***
    1. *Poonaagam*
    2. *Raasa vartham*
    3. *Appiragam*
    4. *Oosikkantham*
    5. *Silasaththu*

2. ***Appu:***
    1. *Nandu*
    2. *Naththai*
    3. *Sangu*
    4. *Muttai*
    5. *Por kilinjal*

3. *Theyu:*

1. *Vellaikkal*
2. *Indira kopam*
3. *Kazhudhai vandu*
4. *Nimillai*
5. *Elumbu*

4. *Vayu:*

1. *Kalmadham*
2. *Kalnaar*
3. *Mayir*
4. *Anna bedhi*
5. *Saathira bedhi*

5. *Akash:*

1. *Sukkankal*
2. *Vaikkirandham*
3. *Karchavadu*
4. *Saalikkiraman*
5. *Rasitha silai*

" சொல்லக்கே ளுபரசத்தின் பூதந் தன்னைச்
    சொல்லுகிறோம் பூநாகம் ராச வர்த்தம்
மெல்லக்கே ளப்பிரக மூசிக் காந்தம்
    மேலான சிலாசத்தும் பூமி யாச்சு;
புல்லக்கேள் நண்டுநத்தை சங்கு முட்டை
    பொற்கிளிஞ்சி லிவையைந்தும் புனலே யாகும்,
கல்லக்கேள் வெள்ளைக்கல் இந்திர கோபம்
    கழுதைவண்டு நிமிளையத்தி கனல்கூறாமே."

"ஆகுமே கல்மதமும் கல்நார் ரோமம்
    அருளன்ன பேதியுடன் சாத்ர பேதி
போகுமே யிவையைந்தும் வாயு வாச்சு;
    புகழான சுக்கான்கல் வைகி ராந்தம்
ஏகுமே கற்சுவடு சாலிக் கிராமம்
    இரசிதசிலை யிவ்வைந்தா காச மாகும்."

Note: *Bogar* has identified the Uparasas are 120 in number. However it may be noted that in *'Therar's Thaila Varukka Surkkam'*, the following *Uparasas* are found additionally:

Kombarakku

Karpooram

Parangipattai

Karungungilium

Vengungilium

Pacchai gungilium

Saambirani

The ancient work which had explained the above 7 materials as *uparasas* has become extinct.

II. APPARATUS

The apparatus required for the preparation of medicines are as follows:

1. Stone mortar *(kalvam)*
2. Curator *(surandi)*
3. Handy earthen lamp *(agal)*
4. Phial (*kuppi*)
5. Cork- stopper *(adaippan)*
6. Steel rod *(salagai)*
7. Pan
8. Earthen crucible *(moosai)*
9. Soil smeared cloth
10. Cow dung cakes
11. Sand
12. Firewood
13. Lime
14. Carbon (coke)

15. Pit *(Kuzhi)*
16. Puda setup
17. Hearth –Oven *(aduppu)*
18. Bellows

1. Stone mortar *(Kalvam):* This is a mortar made of stone. This is of five types as follows.

i. **Black stone mortar** : This is the mortar often preferred as it will not release particles and thus the medicine may be obtained without impurities.

ii. **Red stone mortar** : This is best for grinding of medicines for convulsive and paralytic diseases.

iii. **White stone mortar** : This will destroy the property of the drugs and also delay their actions.

iv. **Yellow stone mortar**: Medicines prepared using this apparatus cannot cure diseases.

v. **Green stone mortar**: This apparatus is the best one. But it is rarely available.

" கருங்கற்கல் வத்தவிழ்தங் காணிலுடற் கின்பாம்
நெருங்கிரத்தக் கற்றோடம் நீக்கு(ம்) - ஒருங்கு வெள்ளைக்
கன்மருந்தோ வீரமொடு காரமின் மஞ்சளம்மி
யின்மருந்தோ நோய்விலக்கா வெண்."

2. Curator:

This instrument is used to take out the medicine that ground in the mortar. The iron curator will be rusted and hence may impair the property of the drug. The curator made of steel and silver are considered as ideal; the curator made of trees, horns etc. are less satisfactory substitue to them.

"இரும்பி னாற்கல்வம் சுரண்டுறு பொருளினை யியற்றின்
துரும்பி னான்மருந் தின்குணம் சுருக்கிடு முருக்கும்
விருப்பி னாலெஃகும் வெள்ளியு முத்தமம் ; விருட்ச
மருப்பி னாற்புரி கருவியோ மத்திம குணமாம்."

3. Agal: This is a circular earthen vessel.

4. Phial : This is a jar with a narrow neck and broad base. This is made of sodium carbonate.

5. Stopper: This is made of slate with a central hole for insertion of steel rod.

6.Steel rod : *(Salagai)* : This is a thin rod made of steel , used to stir the boiling medicines and to check their consistency during preparation.

7. Pan : This is a spherical shaped hollow earthen vessel with a wide mouth.

8. Moosai : This is a crucible like apparatus which is also known as *'kugai'* which is of two types.

i. Earthen *moosai*: This is made by the combination of sand, charcoal, ash of cow- dung cake, clay and coconut fibre.

ii. Vachira *moosai* : This is made by the combination of clay, Iron slag (*ayakkittam*), Jute, rice husk, charcoal tar - pitch lime etc.

The *moosais* are useful in the preparation of *kalangu* and *chunnum*.

Apart from these, there are also other varieties of *moosais* such as *Urukku kugai, Pancha chunna kugai* and *pancha boodha kugai.*

PANCHA BOOTHA KUGAI

Cuttle fish bone(175gm) is ground adding lime water and made into pills and dried. Then it is blowed with charcoal till it turns into calcined powder. The process is repeated with equal quantities of Ammonii Chloridium and alum. Then crucible is made adding orpiment and white arsenic and calcinated, to get purified calcined powder *(Chunnam).*

9. Seelai (Soil smeared cloth) : This is a clean strong cloth over which finely ground soft sand is smeared on one side. This is used as a plaster to apply over flask etc. Instead of sand, wheat flour or black gram flour can be used; lime can also be used alone or in combination with white of egg, depending upon the nature of medicine.

10. Dung cake *(varatti)* : This is of two kinds:

i. **Natural cow dung cake** : This is called wild cow dung cake. It is superior in quality. which weighs about 70 gm.

ii. **Hand made cow dung cake** : This is made in a circular

shape of the size of 30 cm. in width and thickness of 1.25 cm. and dried in daylight.

"ஆமடா எருவகல மலர்க்கை யாகும்;
அடிக்கனமுஞ் சுண்டுவரற் பரும னாகும்;
நாமடா நாட்டெருவிற் கிந்த மார்க்கம்
நலமான காட்டெருவிற் கிருப லந்தான்;
போமடா புடத்தினது பாகந் தப்பில்
புகைந்துபோ மில்லையே லதனுள் வெந்து
சாமடா அதையறிய வேண்டும் வாதி
சார்வான எரிப்புவகை சாற்றக் கேளே."

Country dung cakes :

These are of four kinds:

1.	Cow dung cake	the best in quality
2.	Buffalow's dung cake	not suitable
3.	Mixed cow dung cake	to be avoided
4.	Cakes made of dung,straw, dried leaves etc.	will reduce the potency of drugs.

Cakes made of goat's dung will give higher potency to the drugs which cure the diseases rapidly.

Note: Cakes should not be made using the dungs having foul odour.

11. Sand : This is essential for valuga apparatus (*Valuga iyandiram*).

The sand got from river bed is good. Smaller sand will rapidly absorb and spread the heat, whereas the bigger sand will not do so. If more heat is required for preparation of medicines, smaller sand is used, and for moderate heat bigger sand is used.

12. Fire wood· Different kinds of firewoods are used according to diseases and the metallic paadaanas used.

For example, for preparation of medicines for *vatha thoda*, firewood of trees such as Prosopis spicigera *(Vanni)*, Crateava religiosa (*Mavilangam)*. Albizzia lebbeck *(Vagai)* and Morinda citrifolia *(Nuna*) are used.

For *pitha thoda* woods from trees such as Phyllanthus emblica

(Nelli), Ziziphus mauritiania *(Ilanthai)*, Azadirachta indica *(vembu)*and Limonia acidissima *(vila)* are used.

For Kapha thoda woods from trees such as Allizia odoratissima *(usilam)*, Acacia nilotica *(vel)*, Cassia (konrai) and Pterocarpus marsupium *(vengai) are used.*

For preparation of medicines containing mercury, the firewood of Azadirachta indica *(vembu)*, Borassus flabellifer *(panai)* and Cocos nucifera *(thennai)* are used.

For preparation of medicines containing iron, the wood from trees such as Acacia nilotica *(vel)* and Pterocarpus marsupium *(vengai)* are used.

Fire: Fire is of three types. They are

1. Moderate fire *(Deepakkini)*
2. A small and slow fire *(Kamalaakkini)*
3. Spreading fire*(Kaadaakkini)*.

Another type of fire is called *kathaliyakkini*.

13. Lime: This is used for burning lime. This is also used instead of sand for burning of mineral substances to form chunnam. This may also be useful when paadanaas such as yellow arsenic trisulphide *(Thalagam)* are burnt for obtaining parpam.

14. Charcoal : This is used when bellow *(Thuruththi)* is operated. It has been mentioned that charcoal from special types of trees such as Terminalia belerica *(thaanri)* may be used for deriving parpa chendooram from some metals.

15. Pit : This is dug in the ground in a spherical size which varies in width and depth from 22.5 cm to 90 cm depending upon the quantity of medicine to be prepared.

16. Pudam : This is a process of burning using dung cakes. This is of seven types:-

i. *Kaadai pudam* : One cake
ii. *Kaudhari pudam* : Three cakes
iii. *Kukkuda pudam (Savarpuda)* : Ten cakes

iv. *Varaga pudam* : Fifty cakes

v. *Gaja pudam* : Thousand cakes

vi. *Manal maraivu pudam* : Ninety cakes

vii .*Boomi pudam* : Goat's dung having breadth and length of four finger's measure.

These are mentioned in the following Tamil verse :

"விள்ளுகிறேன் புடபாகம் செப்பக் கேளாய்:
மேலான காடையொன்று; கௌதாரி மூன்று:
தள்ளுவரோ குக்குடமோ எருவீ ரைந்து:
சதுரமாம் வராகபுடம் ஐம்ப தாகும்;
உள்ளபடி கெஜபுடந்தா னீரைந் நூறு:
உத்தமனே மணல் மறைக்காம் எருத்தொண் ணூறே;
அள்ளவே பூப்புடத்துக் கெருவைக் கோளாய்
ஆட்டினெரு நான்குவிரற் கிடைதா னாமே."

Apart from the above, the other pudas are also in use are:

i. ***Umi pudam*** (Husk *puda*) : This is a process of burying the medicine in husk.

ii. ***Thaniya pudam*** (Grain *puda*) : This is a process of burying the medicine in paddy grain for specified days and then taking out .

iii. ***Suriya pudam*** (Insolation):- This is a process of drying the medicine under the sun rays.

iv. ***Chandra pudam*** (Moon *puda*) :- This is a process of keeping the medicine in moon light and then collecting it.

v. ***Amavasai pudam*** (Newmoon *puda*) :- This is to collect the medicines after keeping them in open space during new moon day.

vi. ***Paruva pudam*** (Seasonal *puda*):- This is to collect the medicines after keeping them in open space during fullmoon night.

vii. ***Pani pudam*** (Mist puda):- This is to keep medicines in mist and then collecting them.

viii. ***Pattai pudam*** (Wood puda):- In this process, drilling is

made in the tree and the medicine is kept in the hole which is closed with the drilled wooden powder. The medicine is then taken out after specified days.

17. **Hearth** : This is of many types:

i. ***Kommutti aduppu*** (Knob hearth): It has 3 knobs.

ii. ***Chakkara aduppu*** (Wheel hearth): The mouth of the hearth will be of circular shape; knobs will not be present.

iii. **Wheel hearth with smoke outlet:** This is similar to wheel hearth with an outlet provided additionally to exit smoke.

iv. ***Ulai aduppu*** (Forge hearth): The hearth is dug in the ground and attached to a bellow.

18. **Thuruththi (Bellow)**: This is of two types.

i. **Unilateral bellow**: This is made from goat's skin of 1 cubit measure.

ii. **Bilateral bellow**: This is made from calf's skin.

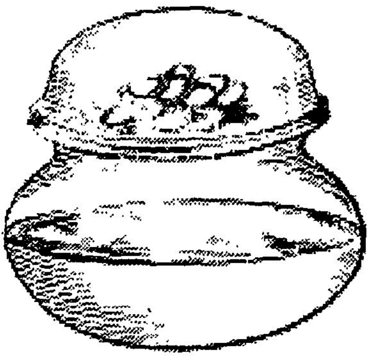
One bellow is required for preparation of *chunnam*; two required for the extraction of *chaththu* and four bellows are required for extracting *chaththu* from copper and iron.

III. PHARMACEUTICAL APPLIANCES

The Pharmaceutical appliances used in preparing Siddhs Medicines are described hereunder:

1. AVI IYANDIRAM

(Par boiling machine - Steam-cooking machine):



Materials required:

1. Tightly closed two earthen vessels (upper and lower)
2. Water or Liquid substance
3. A piece of cloth
4. Materials to be parboiled
5. Fire

Method of use:

Water or liquid is taken in an earthen vessel, the mouth of

which is covered with a piece of cloth and the raw drug to be par boiled is placed over the centre of the cloth. The other vessel is now placed over it in such a way that their mouths close tightly with each other. In order to avoid the steam going out, the rims are covered with moistured cloth. The vessel is heated with small flames until the liquid inside the vessel is evaporated upto three- fourth of its content. After cooling the par boiled material is taken out.

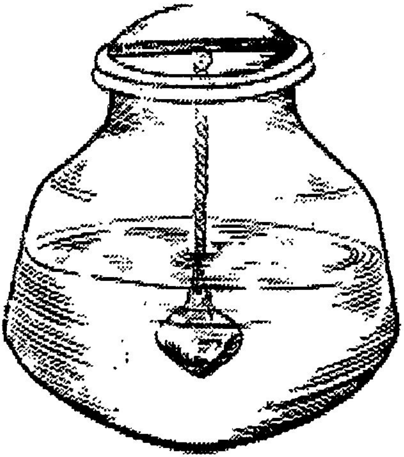
Par boiling materials:

Ex: 1. *Thalisathi vatakam*

2. *Parangi chakkai* (China root- Smilax china)
3. *Sivadhai* (Turpeth root- Operculina turpethum)
4. Seeds of *palasu* (Bastard teak- Butea monosperma)
5. *Amukkira kizhangu* (Winter cherry - Withania somnifera)

2. THULA IYANDIRAM

(Cross- beamed machine)



Materials required:-

1. A hollow mud pot
2. Liquid substances
3. Raw drug
4. A piece of cloth
5. Rope
6. A piece of wooden bar
7. Fire

Method of use:

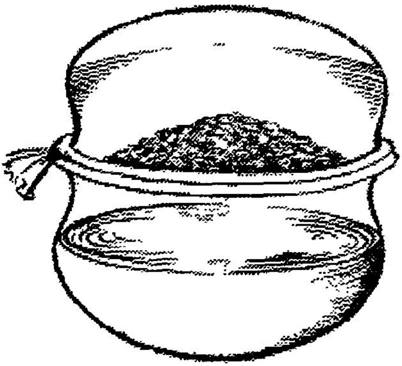
The raw drug is placed in a piece of cloth and tied with a rope. The liquid is poured in to the mud pot. The other end of the rope is tied to a wooden bar placed across the mouth of the pot. The length of the rope is adjusted in such a way that the raw drug placed in the cloth is immersed in to the liquid. The pot is heated gently until the liquid inside is dried.

Materials used in Cross- beamed machine:

1. *Naervalam* (Croton tiglium) -
   Immersel method of purification
2. *Senkottai* (Semicarpus anacardium) -
   Immersel method of purification
3. *Pooram* (Subchloride of mercury) -
   Immersel method of purifica tion.
4. *Veeram* (perchloride of mercury) -
   Raw drug without touching
   water level (Non - immersel method)
5. *Kombarakku* - (lac from gum lac tree)

3. THOOBA IYANDIRAM

(Incense machine) :



Materials required:

1. Wide mouthed clay pot
2. Incense material
3. Sieving cloth
4. Ingredients to be incensed
5. Another mud pot which covers mouth to mouth of the earlier one
6. Mud to soil the cloth

Usage:

The incense-material is placed in a wide mouthed mud pot. Over the mouth of the pot, a cloth is tied and the ingredients to be incensed are placed.

Now the pot is closed by another pot - cover with identical

mouth. Mud is applied to the mouth edges. Then a ribbon cloth is tied around the mouth of the pots: the apparatus is placed over the mild fire and heated.

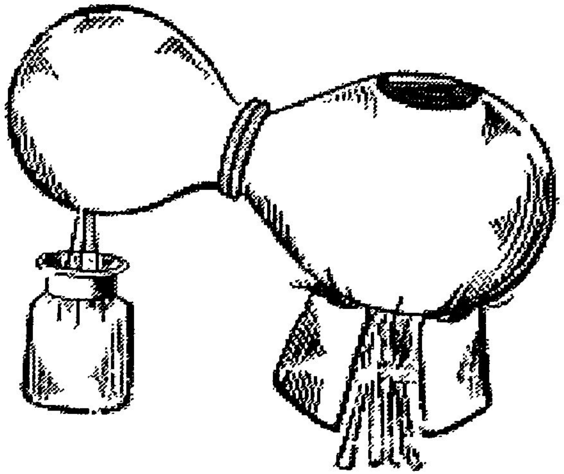
Examples of ingredients used as incense materials:

1. *Koraikizhangu*- (Cyperus rotundus)
2. *Poolan kizhangu* (Curcuma zedoaria)
3. Benzoin

Example for ingredient to be incensed: *Parangi rasayanam*

4. MEZHUGU THAILA IYANDIRAM

(Wax oil Apparatus)



Materials required :

1. A long necked, round bottomed bigger pot with a hole of 2.5 cm. size at one place on its side
2. Another similar pot but with smaller size and having small holes at one place on its side.
3. Thread.
4. Muddy cloth
5. A mud tile to close the hole of the bigger pot.
6. Cow dung to cover the tile
7. Oily medicinal substance
8. A porcelain vessel to collect the oil
9. Fire
10. A wet cloth to cover the top of the smaller pot.

Method of use:

A big pot of 8-10 litres capacity is taken. The oily medicinal substance is placed inside it. Another pot with the size of the mouth similar to the above said pot but whose volume is only one- fourth of it is taken and covered mouth to mouth. Mud is applied over the gap.

The mouths of both pots are tied using a thin rope. Then a seven-layered mud pasted cloth is wind around the mouth. It should be checked that the hole on the bigger pot should face the roof and that of smaller should face downward. The hole in the bigger pot is closed by a tile which in turn is smeared by cow dung, so that the smoke does not escape.

Both the pots are placed horizontally but slightly inclined. The bigger pot is placed on an oven in a slightly lower position compared to the smaller one. A porcelain jar is placed just below the hole of the smaller pot for collecting the oil. Thin sticks are inserted through the hole of the smaller pot so that the oil will seep through them into the porcelain jar. Then the oven is lit with fire.

Precautions have to be taken so that the fire dose not come in direct contact with the outcoming oil or smoke, as they are inflammable and even if a small amount of smoke gets inflammed, it may lead to burst of the pot. Such accidents lead to loss of the material as

well as danger to the persons involved.

Ex: *Mezhugu thailam* (Wax – Oil) is prepared using the above method.

5. SUDAR THAILA KARUVI

(Flame oil Machine)

Materials required :

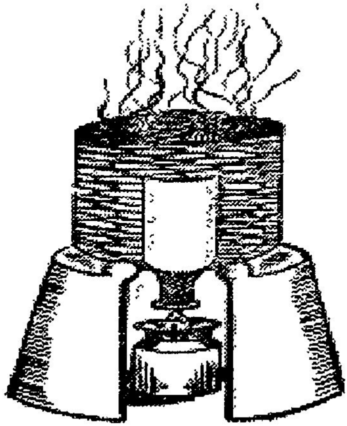
1. Raw drugs
2. Cloth
3. Cup
4. A rod sharpened at one end
5. Oil used for preparation, which serves as the burning base
6. Fire

Method of use

A white cloth of a cubit measure is taken and the ingredients are smeared over it. The cloth is rolled as a wick and dipped in a small quanitity of oil and is hold with the help of a rod sharpened at one end and lit with fire. By holding a cup below the burning wick, the descending oil drops are collected.

Gandhaga Chudar Thailam .(Sulphur flame oil) and *Onan Chudar Thailam* are prepared using this method.

6. KUPPI PUDAK KARUVI



Materials required:

1. Bottle
2. Iron wire mesh
3. A large mouthed pot
4. Iron oven

5. Cow-dung cakes
6. Porcelain vessel

Method of use:

The ingredients are placed in a bottle covered with seven layers of cloth. The portion between the mouth and neck of the bottle is filled with wire-mesh so that the contents of the bottle should not come out. A hole is made at the bottom of the large mouthed pot so that the neck of the bottle enters through this hole. The pot is kept over an iron-oven. The mouth of the bottle is inserted into the hole of the pot and the gap is closed with soil. The cow dung cakes are placed in the pot to about 15 cm around the bottle and now the set up is subjected to 'puda process'. The ingredients are now burnt and the oil descends from the mouth of the bottle drops out, which is collected in a porcelain vessel.

Medicines prepared by this method:

Anda thailam- A medicinal oil prepared from the hen's eggs.

Kadalai thailam is a medicinal oil prepared from the bengal gram (used for improving fertile potency)

7. KUZHI THAILA KARUVI

(Pit-oil Apparatus)

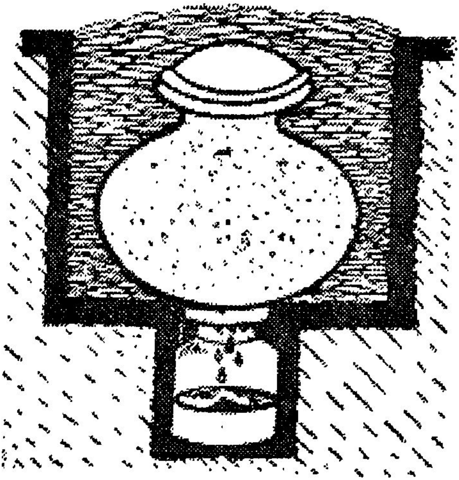
Materials required :

1. A flask with multiple holes at the bottom.
2. A porcelain jar to collect the oil
3. Cow-dung cakes
4. Pit

Method of use :

A flask with 10 -12 small holes in its bottom is taken and the ingredients are placed into it The mouth is closed with a tile and covered in turn with a cloth. After, it has dried, a small pit in the ground is dug. The porcelain jar is placed at the bottom of the pit.

Now the flask is placed over the jar so that the whole set up is within the pit.



KUZHI THAILA KARUVI

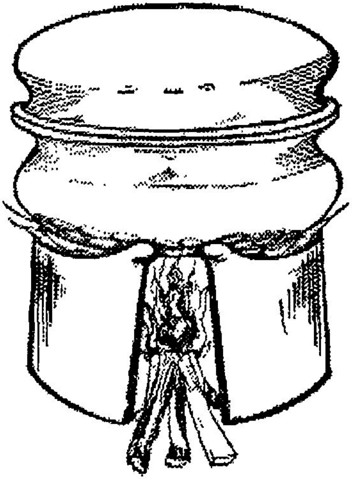
The contact portion between the jar and the flask is covered with a cloth without gap. The jar is packed by placing mud around it. The flask is packed by placing cow dung cake of 6" thickness around it. The cow dung cake is now lit with fire. After extinguision of fire, the flask is removed and the oil is collected into it.

Preparations done by using this method:

1. *Sivanaar-vembu kuzhi thailam* (a medicinal oil prepared from Indigofera-asphalathoides)
2. *Sirattai thailam*
3. *Thuvarai ver kuzhi thailam*

8. CHENDOORAM ERIKKUM KARUVI

(Apparatus to burn chendooram)



Materials required:

1. Two earthen pots (flat bottomed)
2. Fire wood
3. Muddy cloth
4. Oven

Method of use:

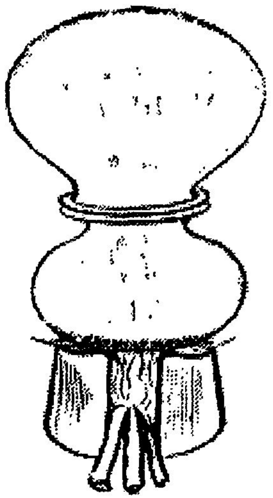
Two wide mouthed pots of equal sizes are taken. In one of it, the ingredients to be burnt are placed and closed by the other pot so that their mouths oppose each other. A seven layered wet muddy cloth is applied over the rim so that there is no gap. The oven is now lit with fire: the ingredients will sublime or become chendooram.

Drugs prepared by using this method:

1. *Ayakantha chendooram*
2. *Arumuga chendooram*
3. *Pancha paashaana chendooram*

9. PATHANGA KARUVI

(Sublimation Apparatus)



Materials required:

1. Big pot
2. Small pot
3. Mud and cloth
4. Oven

Method of use:

The ingredients from which the sublime materials to be prepared are placed in the small pot. The juice of the leaf which will attract the deposition of the sublimed product is applied on the inner surface of the big pot. The big pot is placed over the small one in such a way that their mouths oppose each other. The gap between their mouths are covered by a seven layered wet muddy cloth and is allowed to dry.

This set up is placed over the oven and the smaller pot is heated with firewood; this leads to deposition of sublimed product over the inner surface of the bigger pot.

The bigger pot is allowed to cool down and the sublimed products are scrapped out from its inner surface, collected and stored.

Drugs prepared by using this method:

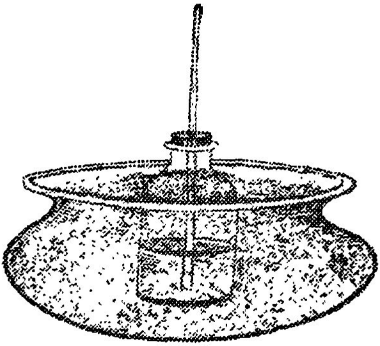
1. *Rasappathangam* (Mercurial sublime- Cinnabar and *kodiveli-* Plumbago indica roots are placed in lower pot)
2. *Saampirani pathangam* (Benzoin sublime)

Leaves used for applying the juices on the inner surface of the bigger pot for attracting sublimation:

1. Leaves of Datura metal *(oomathai elai)*
2. Leaves of Erythrina veriegata *(kalyana murungai elai)*
3. Piper betle *(vetrilai)*
4. Leaves of Coccinia grandis *(kovai elai)*
5. Leaves of Ocimum sanctum *(thulasi elai)*
6. Leaves of Acalypha Indica *(kuppaimeni elai)*

10. VAALUKA IYANDIRAM

(SAND POT)



Materials required:

1. Mud pot
2. Sand
3. Bottle
4. Mud cloth
5. Cork
6. Oven
7. Fire

Method of use:

The ingredients to be burnt are taken in a bottle and its mouth is closed by a stone cork and sealed by a seven layered wet cloth and dried. Sand is placed in a mud pot to the height of about 2-3 finger breadth. The bottle is now placed on the sand.

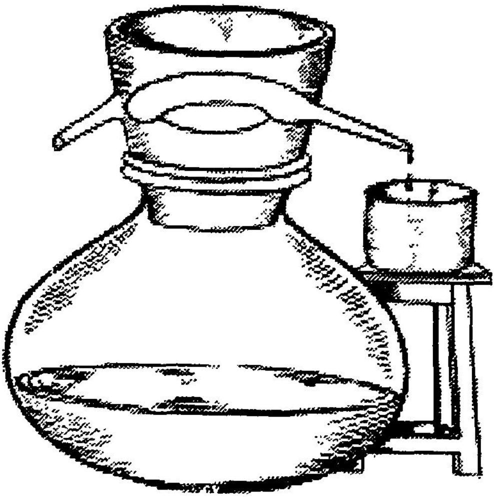
The other method is to place the bottle (without closing the mouth) inside the pot so that there is sand in the pot upto the height of the bottle's neck. Then the pot is placed over an oven and heated with fire, of low, medium and high fire for a specified time. The medicine is collected after the bottle is cooled.

The following are prepared using this method.

1. *Kaalamegha narayana chendooram*
2. *Poorana chandrodhayam*
3. *Thanga uram* (Gold manure)
4. *Velli uram* (Silver manure)
5. *Rasa chendooram* (Mercurial chendooram)

11. DIRAVAGA VAALAI IYANDIRAM

(Distillating Machine)



Materials required:

1. Large water pot
2. Earthen distillation set
3. Salt Ingredients
4. Cold water
5. Oven
6. Fire

Method of use :

The salt ingredients are pulverized and placed in a large water pot. The mouth of the pot is closed with suitable distillation set and covered with muddy cloth and allowed to dry. When the pot is heated, the upper tube of the distillation set is filled with cold water and closed; whenever the water in the upper tube becomes hot, the tube is opened, the water is removed and replaced by fresh cold water. When the pot is heated, the steam evolving form the salt ingredients will condense as liquid drop through the inner tube of the distillation set. This is collected in a bottle and the bottle is closed with a stone cork and kept stored. It should be noted that if the salt ingredients placed inside the pot bursts with sound, the diravaga will not be evolved.

After the preparation is over, the distillation set is removed from the pot. Both the distillation set and the pot are then immersed in a big vessel containing water for one day and are then cleaned well, dried and kept in a clean place. Otherwise the setup will get corroded and wasted.

Medicines prepared by this method:

1. *Vediyuppu diravagam* (Salt petre diravaga)
2. *Sanga diravagam* (Conch shell diravaga)
3. *Kariyuppu diravagam* (Culinary salt diravaga)
4. *Gandhaga diravagam* (Sulphur diravaga).

For the preparations of diravagam like *Nandu theeneer* from crab *Omatheeneer* from Bishop's weed and *Soambu theeneer* from Anise seeds etc.. apparatus made of metals such as copper is used.

IV. MAARANAM

(Metal absorbing drugs)

1. ASHTA LOGA MAARANAM

Ingredients:

Borax, salt petre, *vellai paadaanam, veeram, pooram*, sulphur, mercury and ammonium salts - these eight ingredients have the property of killing the metals. Hence they are known as *Ashtaloga maarana* drugs.

The weight of these ingredients should be equal and their total weight of the metal which is to be converted into chendooram.

Example:

If the metal silver or gold 35 gm has to be converted into chendooram, the weight of each of the above ingredients should be 4.4gm (4.4 x 8 = 35.2gm which is almost equivalent to the weight of the metal silver) formed from this will be more potent and has the property of curing diseases faster.

2. ULOGA MAARANAM

(Absorption of metals)

Stannum will be absorbed similar to that as lead is absorbed by red arsenic, steel by cinnabar, copper by sulphur, silver by black bismuth and the gold by bismuth.

The metals to be absorbed are made into thin sheets and the absorbing ingredients are ground with lime juice and applied over the sheet.

The sheet is then placed in a pot which is closed with another pot and covered with strong cloth.

It is then subjected to '*Gaja puda*' process.

V. CEYANEER

(PUNGENT LIQUID)

CHENDOORA CEYANEER

Ingredients:

Aindham kaichal vediyuppu	10 parts
Attupu (boiled salt)	5 parts
Padikaram (alum)	5 parts
Chaaram	5 parts
Vellai paadaanam	*5 parts*
Sulphur	3 parts
Evatcharam (potash carbonate impure)	2 ¼ parts
Sulphate of iron2 partsTotal	37 ¼ parts
Old tamarind	15 parts

Method of preparation :

All the ingredients (except tamarind) are powdered individually and then they are mixed and ground with tamarind which is added little by little. Then they are pounded with an iron rice pounder. Small pills are made and placed in a new pot tile and heated using coconut tree leaves. They are then taken in a cloth and tied in it. The cloth bundle is made to hung in a porcelain vessel which is placed in another big mud that is closed and a seven layered cloth is wired around the pot which is then buried in a marshy land. The pot is taken from the ground after 48 days. Now one can see the collection of *ceyaneer* in the porcelain vessel. If it is winter season, the same can be applied on a porcelain plate, where the drops of *ceyaneer* can be collected. This *ceyaneer* is potent in making *chendooram* from nine gems, nine metals, mercury, *uparasa* etc.

Another method:

Aintham kaichal vediuppu	10 parts
Attuppu	5 parts
Alum	5 parts
Chaaram	5 parts
Copper sulphate	5 parts
Sulphur	3 parts
Evatcharam	2 ¼ parts
Sulphate of iron	2 parts
Total	**37 ¼ parts**
Old tamarind	15 parts

The *ceyaneer* synthesized from these ingredients will be useful in the preparation of chendooram from metals.

Another method:

Ezhaam kaichal vediyuppu	10 parts
Old tamarind	7 parts

Both the above ingredients are ground, made into small pills, dried, heated in oven, burnt and powdered. Equal quantity of Ammonium chloride (Country salt ammonia) is added to it and kept in cold environment and the ceyaneer is collected.

Anda Erukku Ceyaneer:

Milky juice of Calotrophis gigantea	4 parts
white of egg	1 part
Veeram	1 pinch

If the above ingredients are placed in a bottlel, *ceyaneer* will be formed which is useful in the preparation of certain *paspams* and *chunnams*.

Chippi (Oyster) Ceyaneer :

Equal portions of borax *veeram* and crude camphor are taken and powdered. A pinch of this powder is placed into the mouth of live *kumpidu kilinjal* (a kind of oyster) by incising the mouth carefully.

It is then kept in a porcelain vessel and the *neer* will be formed. The *neer* is collected and stored in a bottle which is called as *Chippi* (oyster) ceyaneer. Metallic *paadaanas* are ground well with this *ceyaneer* and subjected to *'pudam'* which results in the formation of *chunnams*.

VI. DIRAVAGAM

(Medicated Acid)

Chendoora Diravagam

Ingredients:

Sulphate of iron	85 parts
Salt petre	45 parts
Alum	20 parts
Fuller's earth	10 parts
Sulphur	10 parts
Common salt	5 parts
Total	175 parts

Method of preparation:

The ingredients are ground in a mortar individually and mixed together to form a mass and kept in dew. It is divided into 3 portions. The first portion is distilled and diravagam is made form this; now this is distilled with the second portion.The third portion is then added to the *diravagam* and again distilled and the resulting *diravagam* is collected. Which is useful in deriving chendooram from metallic substances.

Another method:

Salt petre	15 parts
Alum (*cheenakaram*)	10 parts
Salt ammonium (Ammonium chloride)	1 part
Fuller's earth	1 part

Sulphate of ferrous (iron)	1 part
Copper sulphate	½ part
Rock salt	½ part
Common salt	½ part

The above ingredients are powdered, mixed together and divided into two parts, and the diravagam is obtained as per the process mentioned above.

Usage : This will be useful in the process of bottle *(Kuppi)* chendooram process for the purpose of grinding the drugs.

Sanga Diravagam :

Ingredients:

Salt petre	3 parts
Rock salt	2 parts
Table salt	1 part
Ammonium chloride	2 ½ parts
Iron sulphate	¼ part
Copper sulphate	¼ part
Alum	¾ part
Fuller's earth	¾ part
Borax	1 part

The above said ingredients are powdered and the *diravagam* is obtained as per the detailed process. Metals and *uparasas* can be converted to *ceyaneer* with the help of this *diravagam.*

Usage: This is useful in chest pain, flatulance and dyspepsia. It is given in drops diluted with water.

VII. WEIGHTS AND MEASURES

Weights:

1 Black gram is approximately equivalent to 1 grain (65 mg)

4 *Yavam*	=	1 *Kundri* (2 grain; 130 mg)
1 *Manjadi*	=	4 grains(260 mg)
6 *kundri*	=	1 *maasham* (780 mg)
3¾ *kundri*	=	1 *panavedai* (488 mg)
32 *kundri*	=	1 *varaganedai* (4.2 gm) (1 Dram)
40 *kundri*	=	1 *Kazhanju* (5.1 gm)
10 *varaganedai*	=	1 *palam* (35 gm)
¼ *palam*	=	1 *kahsu* or 1 kaisa (10.2 gm.)
1 *thola*	=	1 rupee silver coin weight (180 grain; 12 gm)
1 ounze	=	30 gm
3 tola	=	1 palam (35 gm)
8 palam	=	1 ser (280 gm)
40 palam	=	1 veesai (1.4 kg) (3 pound and 2 ounze)
50 palam	=	1 thookku (1.7 kg)
2 thookku	=	1 thulaam (3.5 kg)

Measures:

360 Nell (paddy)	=	1 Sodu (34 ml.)
5 Sodu	=	1 Aaazhakku (168 ml.)
2 Aazhakku	=	1 Uzhakku (336 ml.)
2 Uzhakku	=	1 Uri (672 ml.)
2 uri	=	1 nazhi (1.3 litre)
8 nazhi	=	1 kuruni (5.3 litre)
2 kuruni	=	1 padhaku (10.7 litre)
3 kuruni	=	1 mukkuruni (16.1 litre)
2 padak	=	1 thooni (21.5 litre)
3 thooni	=	1 kalam (64.5 litre)
1 tablespoonful	=	1 dram (4 ml)
1 bottle	=	24 oz (700 ml)

Measures (Others)

Theertha karandi	=	1.33 ml (spoon used to distribute Tulsi Water in temple)
Neikarandi (1 Dram)	=	4 ml. (spoon used for measuring ghee)
Table spoonful	=	16 ml.
Palaadai (1 ounze)	=	30 ml (Special spoon used to feed a child)
Oil spoon (8 ounze)	=	240 ml (8 ounze)
5 Cer	=	1 sombu.

Some ancient weights (not commonly used now-a-days):

Anu (Atom)	=	1 thilam (0.003 gm)
2 thilam	=	1 kagini (0.006 gm)
4 kagini	=	1 virigi (0.024 gm) (Nell)
2 *virigi*	=	1 *vithalam* (½ kuntri- 0.048 gm.)
4 *virigi*	=	1 *kunjum* (1 kuntri - 0.096 gm.)
2 *kundri*	=	1 *maasham* (ulunthu)
4 *kunjam*	=	1 *panaedai*
5 *maasham*	=	1 *thanagam*
3 *thanagam*	=	1 *saanam*
4 *saanam*	=	1 *nitkam*
2 *saanam*	=	1 *vadagam (mukkazhanju)*
1/10 *palam*	=	12 *panaedai*
2 *uri*	=	1 *naazhi*
2 *kundri*	=	1/2 *panaedai*
6 *kundri*	=	1 *maasham*
12 *maasham*	=	1 *thola*
8 *thola*	=	1 *palam* (16 varaganedai)
32 *palam*	=	1 *subam*
2 *subam*	=	1 *paaram (kalam)*

VIII. DOSAGE SCHEDULE

The dose of drugs should be modified according to the age of the patient. If the dose exceeds the usual dose required the drug may become toxic and may damage the vital organs of the body.

If the dose of a drug for an young adult is 1 varaganedai or 60 black gram (3900 mg) weight per dose, then the following are the doses for different age groups or persons:

Age	Dose
Below one year.	1/ 12th of *Varaganedai* or 5 black gram weight.(325)
1-2 years.	1/ 8 th of *Varaganedai* or 8 black gram weight (520 mg.)
2-3 years.	1/ 6th of *Varaganedai* or10 black gram weight(650mg.)
3-4 years.	¼ th of *Varaganedai* or 15 black gram weight (975mg)
4-7 years.	1/ 3 rd of *Varaganedai* or 20 black gram weight (1300mg.)
7-14 years.	3/8 th of *Varaganedai* or 30 blackgram weight (1950mg.)
14-20 years.	2/3 rd of *Varaganedai* or 40 black gram weight(2600 mg.)
20-60 years.	1- *Varaganedai* or 60 balckgram wt (3900 gms.)

It is worth mentioning here that in modern medicine also,dose of drug is modified according to age.

The dose for children in modern medicine is calculated by using the following formula (young's formula):

$$\text{Dose for child} = \frac{\text{Age of the child}}{\text{Age of the child}+12} \times \text{Adult dose}$$

IX. DRUGS

(Medicines)

Drugs (Medicines) are classified into two types and each type consists of 32 forms:

1. Internal medicines (i.e. medicine for internal use)
2. External medicines (i.e. medicine for external application)

Internal Drugs:

The life period of internal drugs are given below:

1. Drugs having shelf life of one *saamam* (three hours) only:

a. *Surasam* (Juice extract): (i.e. extracts of leaves, roots etc. which are boiled or not)

b. *Chaaru* (Juice i.e. expressed juice of leaves, roots etc. ob tained by grinding or baking.)

c. *Kudineer* (decoction i.e medicines prepared by adding water to dry herbs or fresh ones and then reducing them by boiling.)

d. *Karkam* (poultice) (i.e. pastes obtained by grinding wet drugs or by adding water or decoctions to dry powders).

c. *Utkali* (medicated globle i.e. drugs ground with rice or bengal gram with sugar or jaggery added and taken inter nally.

f. *Adai* (thin cake i.e. leaves ground with rice flour and baked in hot oven after applying ghee to it).

All the above mentioned medicines should be prepared afresh and used within three hours.

2. Drugs having shelf life of three months:

a. *Chooranam* (powder i.e. dried drugs purified and finely pow dered)

b. *Pittu* (processed powder. i.e.drugs finely powdered and baked in water or in milk and then sugar or jaggery is added).

c. *Vadagam* (globly pills) (i.e. finely powdered drugs are baked in milk- water combination with sugar added to them; (after drying they are ground and made into small pills).

d. *Vennai* (medicated butter i.e. powder of the raw drug is heated with butter).

3. Drugs with shelf life of six months:

a. *Manappagu* (i.e. syrup form of drug)

b. *Nei* (i.e. juices or decoctions of herbs added to cow's ghee and boiled)

c. *Rasayanam* (elixir i.e. raw drugs finely powdered, sugar and ghee added and taken in a semisolid form.)

d. *Illagham* (electuary i.e. some decoctions or juices are mixed together, sugar is added and boiled; then ghee and honey is added and mixed well.)

4. Drugs with Shelf life of one year:

a. *Ennei* (medicated oil extracted from oily substances like seeds, barks etc.)

b. *Maththirai* (tablet i.e.raw drugs are ground by adding juices, or breast milk and made into small pills.)

c. *Kadughu* (granules i.e. raw drugs are added to oily substances and boiled till mustard like granules appear.)

d. *Pakkuvam* (processed medicine i.e. drugs soaked either in rice water, butter milk, juices of lemon, ginger etc)

e. *Thenural* (medicated honey i.e. drugs like ginger are first soaked in water and then in honey)

f. *Theeneer* (distilled medicine i.e. raw drugs distilled in water distilled essences.)

5. Drugs with shelf life of 5 years:

a. *Mezhugu* (medicated wax) (i.e. drugs obtained by heating them together with oily substances).

b. *Kuzhambu* (i.e. raw drugs added to juice, kept in a vessel and heated and taken in liquid form)

6. Drugs with shelf life of 10 years:

Pathangam (sublimation) (i.e. drugs obtained by the process of sublimation).

7. Drugs with shelf life of 75 years:

Chendooram (red oxides i.e. metallic or toxic salts are made into red coloured powders by burning or by other process.)

8. Drugs with shellife of 100 years:

a. *Neeru* (calyx i.e. calcinated powder of metals, minerals and arsenical compounds).

b. *Kattu* (consolidation- Metallic compounds are soldified in such a way that they do not evaporate or melt or dissolve.)

c. *Urukku* (i.e. paashaanas added to synergestic or antagonistic drugs and blown using natural charcoal fire)

d. *Kalangu* (i.e. mercurial compounds are burnt and then gold or zinc is added)

9. Drugs with shelf life of 500 years:

Chunnam (i.e. mercury of paashaana are ground by adding juice, dried and turmeric powder is added)

10. Drugs with life period over centuries:

a. *Karpam* (rejuvenating medicine i.e. preparations used for rejuvenation.

b. *Chaththu* (i.e. drugs like iron powder are ground with white yolk of egg and later mercury, gold etc. are added to it)

c. *Guru kulighai* (i.e. sublime mercury made into beads)

The above mentioned drugs should not be used beyond their life period.

"உள்மருந் துசரசஞ் சாறுகுடி நீர்கற்க
முக்களியடை யோர்சாமம்
உயர்சூர ணம்பிட்டு வடகம் வெண் ணெய்நான்கி
னுயிர்மூன்று திங்களாகும்
விள்மணப் பாகுநெய் ரசாயண மிளகுநால்
மேவுமறு திங்க ளெண்ணெய்
விரலிடுமு யர்ந்தமாத் திரைகடுகு பக்குவம்
மிளிருதே னூறல் தீநீர்.
கொள்ளாறு மோராண்டு மெழுகொடு குழம்பைந்து
கோப்பதங் கம்பத்தாகும்
குருதிபொடி யெழுபானொ டைந்தாண்டு நீறுகட்
டுருக்குக் களங்குநானூ
றெள்ளிடாச் சுண்ணம்ஐந் நூறுகற் பஞ்சத்து
குருகுளிகை மிக்காயுளென்
றெவருமகிழ் சித்தர்முப் பத்திரண் டாகமருந்
திசைத்தவா யுள்ளனவரோ."

வேறு

" பேசிடு சுரசங் கற்கங் குடிநீர்
பெலனா மொருசாமம்
பிணியெதில் வடகம் சூரணம் வர்த்தி
பெலனது திரிதிங்கள்
ஆசறுகிருதம் ரசாயன லேகிய
மவைபல னறுதிங்கள்
ஆனதோர் தைலத் தின்போக்
கதுவுமோ ராண்டுக் கதிகமிரா;
வீசிடு நன்னூல் மாத்திரை
மெழுகொடு விரைந்திடும் பற்பமுதல்
மேலாங் கட்டுகு டோரிகள் கண்மை
வீரியமாபலனாம்
ஆசறு வழியில் நற்செந் தூர மாதிகற்
பாந்தபலன்
அன்றி சுரனார் நந்திக் குரைசெய்
யௌடதப் பலனிதுவே."

Method of preparation of 32 internal drugs:

1. ***Surasam*** : The different parts of the plant like leaf, root, bark, flower. Rhizome, fruit etc. are crushed, the juice is expressed and subsequently boiled. It is also prepared by powdering dried ginger etc. and dissolving in water and boiling it.

2. ***Charu*** : This is the expressed juice of plant products which are usually fresh.

3. ***Kudineer*** : This is also called as medicinal water or decoction. In sanskrit it is called as *"Kashaya"*.

Dry or wet herbs are made in coarse powder and water is added in the ratio of 2:1, 4:1, 6:1, 8:1, 16:1 or 24:1. It is then boiled and filtered. The filterate is known as *kudineer*.

4. ***Karkam*** : Wet or dry herbs are taken, mixed with purified iron powder or some leaves and triturated in a stone mortar and resulting solid mass is taken.

5. ***Utkali:*** Raw rice or preboiled rice is heated and made into powder, water is added and mixed together. Then sugar or jaggery is added and mixed well. The whole mixture is heated in a mud pot, kindled well and ghee is added on the outer surface. Thinner part of this will be soft while the outer surface is slightly hard which is called as *utkali*.

6. ***Adai:*** Some leaves are added to rice flour and ground properly and baked in hot oven after adding ghee.

7. ***Chooranam***: The dried drugs are finely powdered individually and seived in a fine cloth and mixed together with other powders to homogeneity. The finely powdered material mixed to homogeneity is then baked in a baking pan using milk or pure water to produce steam. It is then filtered in a cloth and made into fine powder.

8. ***Pittu***: The dried materials are finely powdered individually and mixed together. An earthen pot which contains equal volume of water and milk is taken and its mouth is covered with a cloth. The materials are placed over the cloth and the mouth of the pot is now covered with another pot. The pot is then heated till the vapour comes out from the pot. The pittu thus formed is mixed with palm sugar or jaggery and stored for use.

9. *Vadagam*: The raw drugs are made into fine powder individually, filtered in a cloth and mixed to homogeneity. Palm sugar or jaggery is then added. An earthen pot is taken and equal volume of cow's milk and water are poured into the pot. The mouth of the pot is covered with cloth. The drugs mixed as said above, are placed in it and covered with a mud pan. The pot is then heated until the milk is completely evporates. Then the *pittu* so formed is ground and rolled into small pills.

10. *Vennai*: The powdered raw drugs are mixed with twice its volume of ghee in an iron spoon and heated so that the raw drugs melt completely and mix with the ghee This is poured into an earthen pot containing water and churned properly to obtain a butter like substance.

11. *Manappagu*: Decoctions are made from the raw drugs such as roots, flowers, fruits and climbers individually or fruit juices are taken in an earthen pot. Sugar or sugar crystal is added and boiled until moisture evaporates and an aromatic odour appears. At this stage some durg powders could also be sprinkled over it. The manappagu so formed is stored after proper cooling.

12. *Nei*: Some leaf juices or decoction of herbs or tubers are added to cow's ghee and boiled till the drugs completely mix with the ghee. Then it is filtered and the filterate is stored.

13. *Rasayanam*: The raw drugs powdered, sugar and ghee are added to it and stirred well until it becomes in semisolid form and the preparation is stored.

14. *Illagham* (Ilagium): Some decoctions or juices are taken individually or as a compoud. Sugar is added to it and boiled in mild fire until the water content evaporates. When an aromatic odour appears, the fine powders of raw drugs are sprinkled over it. Ghee is added, stirred well and subsequently honey is added and stored.

Alternate method : Water or milk is heated in an earthen pot. Sugar or jaggery is added. When aromatic smell appears, honey is added. When it boils. the chooranam powder is sprinkled over it. Then honey and ghee are added, cooled and kept stored.

15. *Ennei*: Though the term "*ennei*" generally indicates the oil ob-

tained from gingelly seed, it includes all oily substance of seeds, barks, tubers etc. The term ennei was derived form the tamil words El + nei, (el means gingelly and nei means oil). Generally, the oily mixures are called as thailam in Sanskrit ; but in Tamil it is known as *'ennei'*. Other oily mixures are called as nei using the name of the respective oil used.

The medicated oil is named according to the special features of the ingredients.

Example: *Vallarai nei*, *Thoothuvalai nei*, *Pirami nei* and *Sivanar vembu kuzhi nei* are semi solid adhesives, which are called as *nei*.

Kanthaga chudar nei and *Onan chudar nei* are called as *chudar nei*, because of their bright flames.

Kanthaga nei and *peru noi nei* are called with their respective disease names.

Ainkootu nei is prepared with five ghees along with some other ingredients and so called as *Ainkoottu nei* (five compound ghee).

Derivatives of Nei :

i. ***Kothi nei*** - Oil obtained by boiling the substances like castor seeds etc.

ii. ***Urukku nei*** - This is obtained by melting butter, yolk of egg etc.

iii. ***Puda nei***- An earthen pot with pores at bottom is taken. Semicarpus anacardium and Indigofera aspalathoides are put into it and the mouth of the pot is covered with mud pasted cloth. A pit is dug on the ground and a porcelain pot is placed into the pit. The earthen pot is placed over the porcelain pot and is subjected to pudam. The material which collects at the porcelain pot is taken and stored for use.

iv. ***Theeneer nei***- This is obtained by distillation of oil derived from the incense materials like sandal wood powder.

v. ***Suriya pudanei***- Some raw materials are ground with gingelly seeds and kept under the sun rays. The oil is called *suriya puda nei*.

vi. ***Mann nei*** - This is obtained as medicine self generating from the moistureless of dry earth.

vii. ***Mara nei*** - This is secreted form the tree, at the site of cut.

viii. ***Silai nei***- This oily substance flows down from high mountains.

ix. ***Neer nei***- Oily substance obtained from certain drugs like secretion of civet -cat etc. are pound and soaked in water.

x ***Aaavi nei*** - Buffalo's milk, benzoin etc. are placed in a heated mud pot. A pan containing water is placed over this and the oil is obtained from the vapour, which is called as *Aaavi nei.*

xi. ***Sudar nei***- Sulphur etc. are ground with a specified oil. A new cloth piece is taken and soaked in water till all the starchy materials are removed and dried. The material which was ground is rubbed on the cloth. The cloth is tied to an iron rod; one end of the cloth is set to fire and the oily materials coming along with the flame is collected, which is known as *'Sudar nei'.*

xii. ***Iyandhira nei***: This is obtained by grinding gingelly seed etc in machines such as oil-press.

Five types of *nei* :

The above mentioned different varieties of nei are also classified into 5 types depending on the mode of administration as follows:-

1. *Mudi nei*	:	To be applied over the scalp - Hair oil.
2. *Kudi nei*	:	To be taken orally.
3. *Pidi nei*	:	Applied over the skin with pressure - mas sage oil.
4. *Tholai nei*	:	Applied through the nine holes of the body.
5. *Silai nei*	:	Applied over the bleeding and pus discharg ing ulcers.

16. *Maththirai (Urundai)*: The raw drugs are triturated with the juices of leaves or kudineer. They are rolled into different sizes of pills, dried and stored.

17. ***Kadugu***: The raw drugs are added to nei etc, and boiled till mustard *(Kadugu)* like granules form. The ***kadugu*** is taken orally while the oil is used for external application.

18. ***Pakkuvam*** (Processing): Indian gallnut (Terminalia chebula) etc. are soaked in rice water or water. After they are softened, buttermilk or lemon juice or other raw drugs are added to them and made into a processed material. *Pakkuvam* is also done by mixing the lemon and five kinds of salts and boiling them. ex: *Paavana Kadukkai.*

19. ***Thenural***: Drugs like ginger (Zingiber officinale). Indian gallnut (Terminalia chebula) and Emblica officinalis are soaked in water. Pores are made in their surface, and then they are soaked in sugar-syrup or honey.

20. ***Theeneer:*** This is of two types

a. *Theeneer* : Raw materials such as of plant origin are distilled in water.
b. *Pugai neer* Salts are distilled. This is also.known as '*Diravagam*' or *'Saththi neer'*.

21. ***Mezhugu***: This is of two types :

a. ***Araippu Mezhugu*** (obtained by grinding) : Mercurial compounds are ground individually or with other raw drugs adding juices or honey into a semisolid form.

b. ***Surukku Mezhugu***: Obtained by heating the mercurial compounds or paadaanas by adding oily substances or some juices drop by drop. After it is melt and attains semisolid form it should be placed in a mortar and triturated and then stored.

22. ***Kuzhambu***: Some juices or single juice kept in a vessel. Sugar and finely powdered raw drugs are added. The vessel heated until the contents become semisolid form as *kuzhambu* which is then taken out and stored.

23. ***Pathangam*** (Sublimation): The process of sublimation by which solid substances such as camphor, sulphur, impure subchloride of mercury, are brought into the state of vapour by heat and condensed again into a solid by cold without melting them. Mercurial compounds

are subjected to sublimation in mud pots by keeping them in small containers called *'Moosai'*, over salt and bricks powder.

24. *Chendooram* (Red Oxide) : Metallic substances or arsenical compounds are made into red coloured powders by the process of burning, frying or insulating or keeping them in specialised pudams by grinding them with decoctions, *ceyaneers* juices etc.

a. *Chendoorams* which become red by burning; Drugs such as *miruthyunjayam.*

b. *Chendooram* which become red by frying: Drugs such s *Ayaveera chendooram.*

c. *Chendoorams* which become red by grinding: Drugs such as *chandamarutha chendooram.*

d. Majority of *chendoorams* used in day to day practice are like that of *Ayachendooram.*

25. *Neeru, Venneeru or parpam:* Metals, *uparasas* or *paashanas* are made into white powder by the process of *pudam*, burning, frying, blowing and by grinding them with juices, *ceyaneer* etc. It should be noted that the parpam of gold alone is yellow in colour while most of other *parpams* are white in colour.

26. *Kattu*: Some *paadaanas* are made into solid substances which will not vapourise or melt or dissolve in water by grinding them by adding *ceyaneer, diravagam*, leaf juice, mother's milk, decoction, pit oil, milk or honey and binding them. The other method by which it is made into solid is by grinding them, adding juices or breast milk, after they are made into *parpam* or *chendoorams.*

27. *Urukku*: To padaanas or metals synergestic or antagonistic drugs are added and placed in *'Moosai'* (crucible). The mouth is covered with mud pasted cloth. Natural charcoal fire is blown over the crucible and the contents are allowed to cool after melting and stored.

28. *Kalangu*: Mercurial compounds are consolidated by *ceyaneer, diravagam* or juice. Then it blown by using charcoal fire till they become beads. In the melting stage, gold and zinc are added to it. It is taken out after well cooled and then stored.

29. *Chunnam*: Mercury or *paadaana* or metals are triturated either individually or combined by adding juices. *diravagam* or *ceyaneer,*

dried are kept in crucible and sealed with mud pasted cloth. Then they are blown and made into white powders, cooled and stored.

30. ***Karpam:*** Leaves, roots or some metallic and *uparasas* are taken in prescribed doses with specific instructions over a period of time. This is of two types:

a. Those medicaments which have to be prepared daily: Prepara tion of leaves, roots, etc.

b. Pre-prepared medicaments; metallic and uparasa preparation.

31. ***Chaththu:*** Materials like magnet, iron powder, *uparasam, paadaanas* are triturated well with white of egg (*Venn karu ceyaneer*) and kept in crucible and blown for 3 times. Mercury, gold, and sulphur are then added to it, and subjected to *pudam* after triturating.

32. ***Guru kulighai*** : The sublimed mercury is made into kattu and make the beads in chain form.

The above 32 drugs are included in the following forms of preparations:

1. Frying	7. Melting
2. Grinding	8. Decanting
3. Crushing	9. Drying
4. Mixing	10. Rubbing
5. Frying	11. Messing
6. Removing	12. Breaking
13. Cutting	19. Burning
14. Rolling	20. Wiping
15. Moving/mobilising	21. Tightening
16. Churning	22. Triturating
17. Roasting	23. Mashing
18. Wetting	24. Taking

External Drugs:

The external drugs are applied externally in the following forms:

1. *Kattu*	17. *Neer*
2. *Patru*	18. *Varthi*
3. *Ottradum*	19. *Suttigai*
4. *Poochu*	20. *Salagai*
5. *Vedhu*	21. *Pasai*
6. *Pottanam*	22. *Kali*
7. *Thokkanam*	23. *Podi*
8. *Pugai*	24. *Murichal*
9. *Mai*	25. *Keeral*
10. *Podi thimirdhal*	26. *Karam*
11. *Kalikkam*	27. *Attai - vidal*
12. *Nasiyam*	28. *Aruvai*
13. *Oodhal*	29. *Kombu kattal*
14. *Nasigaparanam*	30. *Urinjal*
15. *Kalimbu*	31. *Kurudhi vaangal*
16. *Seelai*	32. *Peechu*

Shelf life of external drugs:

1. Those with shelf life of one year:

a) *Mai*
b) *Kalikkam*
c) *Nasium*
d) *Pasai*
e) *Peechu*

2. Those with shelf life of three months:

a) *Nasigaparanam*
b) *Neer*
c) *Varthi*
d) *Podi*

3. Those with shelf life of six months.

   a) Kalimbu

   b) Seelai

1. ***Kattu:*** It is an external bandage application on the affected parts (on the head for delirium, on the eyes for eye diseases, in palms for burning sensation, in legs for swellings, ulcers, testes swellings and in groin for bubo etc. The bandage is applied with the leaves or barks by grinding, frying or boiling with vinegar.

2. ***Patru***: It is obtained by grinding leaves, barks, roots or some raw drugs with or without heating.This is applied over the affected area.

3. ***Ottradum***: Lime, husk, brick powder, sand or some leaves are fried and tied in a cloth and applied as fomentation on the affected areas.

4. ***Poochu***: This is application of medicated oils or boiled herbal juices on the affected areas.

5. ***Vedhu***: (fomentation): Raw drugs are powdered and rolled in pieces of cloth as wicks. They are burnt in small earthen lamps which contain neem oil and fumes so evolved are inhaled. This also includes inhalation of steam by adding raw drug powders to boiling water.

6. ***Pottanum***: Small cloth bags containing powdered raw drugs are soaked in warm neem oil or other oils and applied over the affected areas as fomentation.

7. ***Thokkanam*** **(Massage):** This is the physical manipulation of the body with hands either by applying oil or without oil. This is usually practiced for relieving pain caused by rheumatism etc.

8. ***Pugai:*** This is application of fumes to the different parts of the body. The fume is generated by burning peacock feather, cumin seeds, horns of animal,excreta of pig *(Pantri puttai)*, snake (cobra) skin etc.

9. ***Mai***: Some raw drugs are triturated with black stone along with some leaf juices and dried. Then honey is added and ground into paste. This preparation is generally used on the eye lid.

10. ***Podi thimirdhal***: This is rubbing of the body with horse gram flour or turmeric powder with or without camphor.

11. ***Kalikkam***: Applying eye drops obtained by dissolving medicated pills in honey, mother's milk or other plant juices.

12. ***Nasiyam***: Freshly expressed juices from leaves or flowers are used as nasal drops. Some prepared medicines are also used as nasal drops. When prepared medicine is used it is made as liquid by dissloving it in mother's milk or in other juices.

13. ***Oodhal***: Some leaves or medicinal salts are chewed and the resulting liquid is instilled by blowing in to the ears etc.

14. ***Nasigaparanam***: Raw drugs or some roots either as such or other soaking in milk or in herbal juices, are dried in shadow and then powdered. The powder is filtered in a cloth and applied into the nostril. *Nasigaparanam* is the powdered form while *nasiyam* is in liquid form.

15. ***Kalimbu*** : *Paashaanas* are added to astringent drug like Acacia catechu and powdered. They are then ground well with butter and applied on wounds.

16. ***Seelai***: Some toxic drugs are ground in water or in herbal juices until it becomes semisolid consistency, then a piece of cloth is soaked in this and applied over the wounds.

17. ***Neer***: Some drugs are soaked in water or some toxic substances are made into decoctions. They are used to wash the wounds after dilution.

18. ***Varthi***: Some toxic substances are powdered, triturated well with some juices. A piece of cloth is soaked in this and made into a wick and applied to deep and non-healing ulcers. This also includes rolling of certain medicinal powders in pieces of cloth and applying the same over the deep wounds.

19. ***Suttigai***: This is an application of heat using needle, soil (pieces of earthen pots) or pieces of wood in affected areas of the body.

20. ***Salagai***: This is passing of a probe which has blunt and into the constricted crgans etc. or measuring the depth or length of a sinus or

fistula.

21. ***Pasai***: Some drugs like *Kungiliyam* (Shorea robusta) are melted with molten wax or ghee and applied to wounds.

22. ***Kali***: Drugs like Lepidium sativum(*Aalivirai)* seeds are ground with rice flour by adding cow's milk or water and heated and kindled. When it becomes semi-solid form, it is applied to the affected area.

23. ***Podi***: Some raw drugs like borax powder which are bitter in nature are powdered and applied over the wounds.

24. ***Murichal***: This is the technique of physical manipulation by which dislocated bones or joints are brought to their normal position. This is similar to present day's orthopaedic practice of bone-setting.

25. ***Keeral***: This is a surgical incision of tumour boils, acne, abscess etc. for removal of pus, blood etc. from them.

26. **K*aram***: This is an application of toxic compound drugs for healing of ulcers or for producing ulcers.

27. ***Atai-vidal (leech application):*** The leech is allowed to bite at the specified sites of the body so that it sucks all the impure blood. After it has sucked the blood it would fall down. Subsequently the swelling will subside.

28. ***Aruvai***: This is excision of the diseased part of the body using specific surgical instruments and then suturing. This is similar to modern practice of operative surgery.

29. ***Kombu kattal***: This is reduction of fractured bones and immobilising them using splints (woodern sticks) and bandages.

30. ***Urinjal:*** This is the procedure of aspirating (sucking) of blood, pus etc. from wounds using specific instruments.

31. ***Kurudhi vaangal:*** This is the procedure of incision of blood vessel for letting down of blood which is used in certain disease conditions where excessive accumulation of blood in the body is present.

32. ***Peechu***: This is the procedure of enema using water or soap water to evacuate the rectal contents.

MINERAL KINGDOM

I. METALS

1. IRON (FERRUM)

Iron is found in mountains and in earth in association with certain materials like sulphur. It is also found in plants and animals.

Egg shell, mica, sulphur, oyster shell, arsenic bisulphate *gowri*, *savveeram*, Hydrargyrum perchloride *saaram*, *singi*, *silasaththu* (bitumen), *silai*, *thara*, *nimilai*, fuller's earth, lead borax, bronze, *vellai paashaanam* etc. are considered as antagonists to iron.

Aqua regia*(Raajavarthyam)*, magnet, Sulphate of copper *(kenthichembu)*, camphor, copper, gold, zinc, earthworm, calomel, copper extracted from peacock feather, *(mayurachembu)*, silver etc. are considered as agonists to iron.

Iron has astringment and mild sour and bitter taste. It has tonic, haemopoietic, appetite stimulant and health promoting properties. Its potency *(veeriyam)* is hot.

Iron improves the properties and functions of blood. Some preparations of iron may cause constipation. In order to prevent it, three myrobalans are added to iron preparations. Iron stimulates the functions of all the organs of the body and thus it acts as a tonic.

Iron preparations are used in treating the diseases like anaemia, jaundice, leucoderma, obcsity, dropsy, anorexia, peptic ulcer, spermatorrhoea, diarrhoea, and dyspepsia.

" பாண்டுவெண் குட்டம் பருந்தூல நோய்சோபை
மாண்டிடச்செய் மந்தங்கா மாலைகுன்மம் பூண்ட
பெருந்தாது நட்டமும்போம் பேதிபசி யுண்டாங்
கருந்தாது நட்டமிடுங் கால்."

Purification of Iron and detoxification for medicinal preparations.

About 210 gm. of flower juice of Madhuca longifolia (*Iluppai)* is added to 35gm. of iron powder and kept in sunlight from morning to evening for six days.

Then this preparation is dried in sunlight for two days without adding the juice and this procedure is repeated twice. From 25th day onwards it is kept in sunlight for ten days adding the juice daily; it is then dried for 2 more days without adding the juice. The iron is thus purified.

There are four other methods of purification of iron:

1. Ingredients.

Iron	35 gm
Lilly root (Nymphaea nouchali)	280 gm
Alexandrian laurel root	280 gm
(Calophyllum inophyllum)	
Fermented old rice water	560 gm

Iron, pulverised powders of lilly and Alexandrian laurel roots are placed in a mud pot and added with fermented old rice water. This mud pot is heated day and night. Fermented old rice water is added if necessary to compensate the loss on heat. Purified and detoxified form of iron is thus obtained.

2. Iron is heated until it gets red hot. It is then immersed thrice in six months old rice water fermentation, gingelly oil,cow's urine *(aavin neer)* and in the decoction of horse gram successively. It is then washed with fresh water and purified form of iron is obtained.

3. The iron powder is immersed in lemon juice, vinegar, latex of country castor (Jatropha curcas) in each for 3 days. Then it is washed to obtain the purified iron.

4. The juice of jambul fruit(Syzigium cumini) is poured over the iron powder till the powder is immersed in the juice. It is then kept in sunlight until the juice completely dries and then washed. This process is repeated six times to get the purified iron.

Iron has five defective qualities which can be rectified by suitable minerals as explained in the following verse :

"வாறுகே ளிரும்புக்கைங் குணங்க ளுண்டு
வகையாகச் சொல்லுகிறேன் நன்றாய்க் கேளும் :
தாறுகேள் திரைசவிடு வுடைச்ச லூறல்
சரசமா யிருக்காத குணந்தா னைந்தும்
பேறுகே ளிதைநீக்க வறிந்தோன் வாதி
பிரித்திதனை நீக்காதான் பிணந்தான் பாரே
வாறுகேள் குளம்வெட்ட வூற்றுப் போல
வம்மம்மா விரும்பூறல் அருகா தென்னே"

"அருகாத விரும்பூற லறுக்கக் கேளும்
அடைவான சாரமிடி லருகு மூறல்
தருகாத சவிடறுக்குச் சாற்றக் கேளும்
தயங்காத கல்லுப்பால் சவிடு போகும்
மருகாத திரைபோக வரிசை கேளும்
வளமான வீரமிடின் மணிபோ லாகும்.
உருகாத ஜீரணிப்புப் போக வென்றால்
ஓகோகோ சூதமிட்டே உருக்கிப் பாரே!"
"பாரப்பா வுடைந்ததென்றால் நானத் தூது
பருவமுட னஞ்சுக்கும் பயனுஞ் சொன்னேன்."

The purified iron is used in different forms such as calx *(parpam)*, red oxide *(chendooram)*, *kalangu*, *mezhugu*, *vadagam* and *panitham*. Of these, Calx *(Parpam)* is most potent. *Chendooram* has ¾ th potency of *parpam*. Other forms are less potent.

AYA (IRON) PARPAM

Preparation: The various juices s mentioned below are added to 35 gm. of purified iron and triturated well. Small round thin cakes *(villai)* are made from this, dried in sunlight and subjected to calcination *(puda)*. Only freshly prepared juice should be used daily. It should be also ensured that grinding should be undertaken during day time and not during night since the grinding procedure needs activeness.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of days dung cakes required for puda (6)
1. Root bark juice of Pterocarpus marsupium *(vengai verpattaichaaru)*	245	7	5	1	40
2. Juice of sugar cane- (red variety) Saccharum officinarum *(Senkarum pu chaaru)*	157.5	9	8	1	50
3. Root bark Juice of Mangifera indica- (sour mango)	105	12	11	1	32
4. Root juice of Aloes - Aloe barbadensis	52.5	13	12	1	27

Grinding should be done in day time since the medicines *prepared during night time will not be fruitful due to* sleeping,anger,debility etc.,hence night hours preparations should be avoided.

Different Adjuvants are recommended to take with this parpam for different diseases as listed below:

Indications:

Diseases	Adjuvants
Testicular swelling *(Anda vaadham)*	Ginger juice (Zingiber officinale)
Ascites *(Peruvayiru)*	Oil of pepper (Piper nigrum) or its *rasam* (decoction)
Abdominal pain.	Piper longum oil or its *rasam* (decoction)
Pakkasoolai (Throbbing pain in the axillary region	Dried ginger's *rasam* (decoction)(Zingiber officinale)
Rheumatic affection *(Vatha pidippu)*	Honey
Gastric ulcer *(Gunmum)*	Toddy
Vomiting.	Sugarcane juice.
Hysteria *(Soosigai)*	Cashew *fruit juice* (Anacardium occidentale)
Hemiplegia *(paarisavayu)*	Grapes juice (Vitis vinifera)
Vomiting due to pitha.	Sugar
Hiccough	Sugar candy.
Tuberculosis	Jaggery
Dyspepsia of deranged pitha	Ghee
Cough due to deranged pitha	*Mahavilvadhi leghium.*
Pyrexia due to deranged pitha (Bilious fever- *Pitta suram*)	*Vilvadhi utkali*
Anaemia due to pitha	*Thakkolaadhikali*

Anasarca due to deranged pitha	*Utkali alwa*
Kapha diseases	Milk
Delirium due to excess deranged kapha	Rice water
Heavyness of head	*Kanji*-Gruel made of wheat or *saamai* (a kind of millet)
Spleenic tumour (enlargement)	*Payasam* (sweet liquid) made from poppy seeds or *moongilarisi* (bamboo seed)
Anuria	Breast milk.
Diabetes	Urine
Scabies, Urticaria, Eczema Leprosy, etc.	Saliva
Swelling	Hot water
Eye diseases	Basil Juice (Ocimum sanc tum)
Diseases associated with sweating	Betal leaf juice (Piper betle)

The dose of adjuvants should be 8 times of the dose of the *Aya parpam.*The dose of the *Ayaparpam* should be equivalent to the volume of the Italian millet *(saamai arisi.) which is deal.*

Thinai arisi - mediocre

Nel arisi - not advisable

The duration of treatment should preferably be 32 days and duration less than 18 days treatment will not yield satisfactory results.

Dietary restrictions:

Foods to be avoided during medication :

Kalippakku (areca catechu- betel nut) , Onion (Allium cepa). Indian hemp (Cannabis indica), Opium (pappaya somniferum), co-

conut toddy, palmyra toddy, alcohol, sesban leaves (Sesbania grandiflora), water, buttermilk, fermented old rice water, tamarind and gooseberry. It is also advisable to avoid sexual contact during medication as stressed in the following Tamil verse :

"பெண்ணின்ப மென்ப தாலம்
　　பிறநர ருயிர்நி லைக்கே
எண்ணின்மற் றஃதால் நன்மை
　　எவற்றையுங் கெடுக்கு முன்னோர்
பண்ணின வவிழ்த மென்னும்
　　பாற்கொரு புரைமோ ராகும்
புண்ணின் மொய் பறவை மானப்
　　புமான்களென் றயிர்ப்ப ராலோ." *(Siva munivar)*

Other methods for preparing Aya (iron) parpam:

1. *Aya parpam* (35 gm) should be triturated with the flower juice of Hiptage benghalensis (about 6 times the quantity of iron;) for 3 days. On the 4th day it is made into small round cakes and dried. On 5th day adequate quantities of tamarind leaves are ground and divided into 2 portions. One portion is made as a *'moosai'* and the cakes are placed inside it. The other portion is used to cover it. It is sealed with mud packed cloth and dried on that day and also on the sixth day. On seventh day it is subjected to calcination (puda) process with 108 cow dung cakes. After allowing to cool for one day, the derivative is obtained in white colour.

Aya parpam is useful in the treatment of fever with rigor, chronic fever, itching, eczema, venereal ulcer, gripping pain (*ulaippu)*, ulcers *(vippurudhi*), tuberculosis, anaemia and asthma (respiratory illness).

Aya parpam can be taken along with honey and sugar to obtain satisfactory effect. It can also be taken along with long pepper and pepper but the effect will not be very satisfactory.

The medicine should be administered in the morning and evening and the following diets should be avoided for one week.

Restriction: Sesame seeds, mustard, horse gram (Dolichus biflorus), diets of sourness (sour food stuffs), and sexual contact are to be avoided during the medication.

All the diseases which lead to weakness can be treated with iron parpam. Other diseases take time for cure. *Parpam* and other medicines strengthen the body. Juice of Plumbago zeylanica *(chitramoolam)* leaves is used in *puda* process for preparing iron *parpam.*

Iron powder 35 grams (which is purified and detoxified with fermented cooked rice water 105 ml) is soaked with latex of hedge cotton (105 ml) *(velipparuthi)* for one day (24 hrs) and triturated with the above Latex of Pergularia daemia *(velipparuthi)*(105ml) continuously. It is made into small round cakes and dried in sun shade till the water content is evaporated and dried in daylight. Then they are isolated.

AYA CHENDOORAM

Purified and detoxified iron powder(35 gm) is taken and ground with the juices as shown in the table below, small round cakes are made and dried. The *Aya chendooram* is obtained after subjecting it to puda process.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1.Indian Water lily *(Seedhevi chenkazhu neer juice)* (Nymphaea alba)	175	5	4	1	30
2. Juice of Marsilea quadrifolia *Aarai elai juice*	175	5	4	1	30

Name of the juices (1)	Quantity required in grams (2)	No of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No of dung cakes required for puda (6)
3. Leaf Juice of Indian coral tree (Erythrina variegata) *Muruk kilai chaaru*	175	5	4	1	30
4. Tender coconut leaves juice (Cocos nucifera)	175	5	4	1	30
5. Leaves juice of Palmyra (Borassus flabe llifer)	175	5	4	1	30
6. Juice of Malabar nut. (Adhatoda vasica) leaves *Adathodai*	175	5	4	1	30
7. Leaf juice of heart leaved moon seed (Tinospora cordifolia) *Seenthil*	175	5	4	1	30
8. Juice of three lobed night shade (Solanum trilo batum) *Thuthu valai*	175	5	4	1	30

Adjuvants	Curable diseases
Sugar	Contraction due to rheumatism
Sugarcane juice	Mental derangement due to pitha
Sweet toddy	Tuberculosis
Jaggery	Tremors parkinsonism
Plantain fruit *(banana)*	Anaemia
Cow's milk	Weakness
Cow's ghee	Convulsive disorder *(ezhuppu vatham)*
Cow's buttermilk	Debilitating bone disease
Cow's butter	Application of vatha *(swadha vatham)*
Boiled and cooled water	Delirium due to kapha
Cow's curd	Ophthalmia *(neththiravayu)*
Essence of cow dung	Bilious convulsion *(pitha sunni)* Delirium due to deranged pitha.

The dose of *Aya chendooram*, dietary restriction etc. are similar to that of iron *parpam*. The months most suitable for intake (administration) of iron *parpam* are *Thai, Masi* and *Panguni* (i.e. from 14th January to 13th April) are good.The months of *Chithirai, vaikasi* and *Aani* (i.e from 14th may to 13th August) are mediocre.

It is not advisable to take medicines during the month of *Aadi, Aavani and Purattasi*. It is better to avoid taking medicines during the months of *Aiyppasi, Karthigai and Maarkazhi* (i.e from 14th November to 13th January)

The lands suitable for administration of the *Aya chendooram*:

For patients with rheumatism and bronchitis, *Mullai* land is preferred; for rhematism *Kurinji* is medicore and *Neithal* is not suitable.For patients with bilious disorder, *Neidhal* (sea and surrounding land) is suitable, *Kurinji* is mediocre. *And Mullai* is not suitable.

For bronchitis, *Neithal* is mediocre and *Kurinji* is not suitable.It has been mentioned that if the Ayachendooram is taken for quarter of a *mandalam* (12 days) the disease will be cured; if taken for half a *mandalam* (24 days) physical strength will be improved: if taken for

three fourth of a *mandalam* (36 days) it produces a sense of physical and mental well being; if taken for one *mandalam* (48 days) energy level will improve enabling to do any hard work, as defind in the following Tamil verse.

" மண்டலங் காலில் நோய்போம்,
மற்றொன்றில் வலி வுண்டாகும்
அண்டுமுக் காலிலின்பம்
அப்புற மெண்ணங் கிட்டும்
கொண்டவர் தம்மைக் கண்டு
கொண்டபேர் பரிச மெய்யுட்
கொண்டபேர் தமக்கு முண்டாம்
கூறொணாச் சித்தி தானே."

The following diseases can be cured by Aya chendooram :

1. Kapha diseases (Bronchitis)
2. Severe anaemia.
3. Jaundice
4. Loss of appetite
5. Anasarca
6. Aya chendooram can also be used to regain vitality

Other methods of preparation of Aya chendooram:

Iron powder 35g. is soaked in gingelly oil, fried and then placed in a porcelain vessel, soaked in lime juice for 4 days. It is then washed to obtain in purified and detoxified form.

1. Iron - 35gm
2. Sulphur - 3.5gm
3. Lime juice
4. Trailing eclipta juice *(potralaikaiyan)*

Iron and sulphur powder are triturated with lime juice in a mortar for 12 hours and then with the Trailing eclipta juice for 12 hours; small round cakes are made from this and dried. It is then subjected to *puda* process. The cakes are triturated with the above mentioned juices and *chendooram* is obtained after subjecting the same to *puda* process.

Dose:- 488 mg.

Adjuvants: It is given with honey for anaemia, dyspepsia due to pitha, urinary tract disease due to pitha, bilious gas *(pitha vaayu, pitha vettai)*, nausea, loss of appetite, giddiness and vomiting. It is given with dried ginger *chooranam* and honey for the treatment of pitha.

Lannea coromondelica bark *(Odthium pattai)* is sprayed by old fermented rice water, the juice is extracted. The iron powder is soaked in a stone mortar and kept in the sun rays for 3 days; on 4th day it is triturated with the above juice and pills *('villai')* (small round cakes) are made, dried and placed in a shallow earthen plate. The same is closed with a (lid) earthen plate and covered with 7 layered mud pasted cloth and subjected to *'gajapuda'* process; and it is repeated for 8 times. Subsequently bark juice of Lannea coromondelica bark is extracted without spraying old fermented rice water and the juice is ground and put into 3 pudas; the *chendooram* will be then obtained.

Adjuvants: With this chendooram tender fruits and seeds of *aal* (banyan) and *arasu* (peepul) with equal quantity of Indian liquorice-(Glycyrrhiza glabra *-adhimaduram)* and ghee or honey can be taken

Curable diseases: Flatulance, diseases of vatha, pitha and kapha. It also strengthens the body and concentrates the of semen. It is also considered useful in the treatment of menorrhagia (excessive menstrual bleeding.)

Further, in *'Agathiyar Kappiyam 1500'*, it has been mentioned that Aya chendooram prepared with bark of Eugenia jambulana is very useful in the treatment of diabetes and diarrhoea.

AYA KAANTHA CHENDOORAM

This is prepared by using the following ingredients:

Iron	35 gm
Sulphur	35 gm
Magnet	8.75 gm
Cinnabar	5.1 gm
Borax	5.1 gm

Alum	5.1 gm
Fuller's earth *(Pooneeru)*	5.1 gm
Common salt (Sodium chloride)	5.1 gm
Rock Salt	5.1 gm
Ammonium chloride	5.1 gm
Camphor	5.1 gm

The above ingredients are powdered and triturated with lime juice for 2 days and made into pills (small round cakes) and dried. It is sealed with mud pasted cloth and subjected to *'pandri puda'* and the reddened *Ayakantha chendooram* so obtained is effective in the treatment of anaemia.

AYA VEERA CHENDOORAM

Iron powder (35 gm) and mercury (35 gm) are triturated in a mortar. Perchloride of mercury (17.5 gm each) Ammonium chloride *(Navaatchaaram)* are added and again triturated for 3 days till it becomes red in colour. They are placed in a new mud pot and fried till it becomes bright red and then cooled and stored.

"ஆட்டுத் துகள்விந் தோர்தொடி
அரைசே வகன்சாரம்
போட்டுக் கலுவத் தில்திரி
பொழுதே நனியாட்டி
நாட்டுக் கரித்தீ யில்மணில்
நாட்டும் மொருபாண்டத்
தோட்டுக் கவிர்நிற மாவறு
உறுகால் முதல்போமே."

Dose: 130 mg.

Adjuvant: Palm jaggery

The *Ayaveera chendooram* is useful in the following diseases:

Throbbing pain, leprosy, vatha diseases and poisonous bites.

(**Note:** Coconut broom sticks should be used for frying purpose carefully)

AYA MEZHUGU

Ingredients:

1. Iron powder	70 gm
2. Fried borax	35 gm
3. Ammonium chloride	8.75 gm

The ingredients are triturated with punica granatum (sour pomegranate juice(700 gm). Then they are placed in an iron pot and heated with low intensity flame; the above juice is added gradually (little by little) and stirred well with the ingredients till it reaches the waxy consistency.

Dose : 2-4 gm

Adjuvants: Ghee, honey, decoction of anise seed, dried ginger decoction.

Curable diseases: Eight types of *paandu* (anaemia, jaundice,dropsy) and gleet

Diet regimen: As said for *Aya parpam*.

AYA BRINGHARAJA PAANITHAM

This preparation is useful in relieving the paleness due to deficiency of blood(anaemia) abdominal distension and loss of appetite.

The following ingredients are requied:

Iron powder is processed in the juices of Eclipta prostrata (trailing eclipta) and Emblica offficinalis	350 .00 gm
Dried ginger (Zingiber officinale)	17. 5 0 gm
Gooseberry (Embilica officinalis)	35 .00 gm
Beleric myrobalan (Terminalia bellirica)	35 . 00 gm
Pepper (Pepper nigrum)	52. 5 0 gm
Long pepper root (Piper longum root)	52. 50 gm
Honey	700. 00 gm

Palm jaggery	700 gm
Fresh Juice of Eclipta prostrata	1300 gm

The above mentioned ingredients are heated and boiled in fire and a syrup is made and bottled up for use.

Curable diseases: Anaemia due to *paandu*, jaundice due to pitha, aScites, and dyspepsia.

"பாவன மேவிய கருந்தா தின்பொடி
படைமுக் கனிமரிசம்
பாணம தன்முதல் கஜவெண் முறையே
பலம்பத் தரையேகம்
மேவிடு மஃதஃதொன்றரை யொன்றரை
விளம்பொன் றரையாகும்
விரைதேன் பனைவெல் லம்மிரு பானது
மிளிர்கை யான்படி யாம்
பாவகன் வைத்திடு புரிபா ணிதமாய்ப்
பகரித னபிதானம்
பாரய பிருங்க ராஜம தென்ப
பண்டுள வினையாலே
தாவரத் தக்குரை வாலெழு பாண்டுவை
தழற்கா மாலைசோபை
தணியா வுதர மக்கினி மாந்திதயம்
தப்பா தொழியும்மே."

AYA SAMBEERA KARPAM

The following ingredients are required:

Iron powder	350 gm
Pepper powder (Piper nigrum)	350 gm
Garlic (Allium sativum)	350 gm

The above mentioned ingredients are triturated and the mixture is divided into 40 portions. Lemon fruits (40 numbers) are taken and each fruit is divided into 4 parts and the seeds are removed. Each portion of the mixture is placed inside of each fruit and all the fruits are placed in a mud pot. Oil (2.1 kg) is poured into the mud pot. The pot is covered with shallow earthen plate, covered with cloth smeared with *mezhugu* and then buried in sand taken from lotus pond

for a *mandalam* (ie. 48 days). It is then taken out and used in the treatment of anaemia and jaundice with a dosage of one piece, twice a day.

"ஆட்டுத் துகள்கரி திரிதொடி
பப்பத் தரையை யெண்யருணக்
காட்டுக் கனியுள்ளை யைம்பூ
தத்தொரு கலமுள் ளிடுதிலநெய்
கூட்டுத் தொகைமுற் கூறிரு
சில்லிடு குழையிடு மண்டலமே
ஒட்டுப் பிளவொன் றிருபோ
துணுபாண் டொடுசோபையு மறுமே."

AYA BRINGARAJA KARPAM

In combination with iron, *chaththu, chendooram, vadagam, leghiyam, chooranam* etc. are also prepared which are defined in the following Tamil verses:

"கரும்பொ னயோமல மறைசாத் திரவென்
கழறுந் தொடிபொடிசெய்
கரிசா லைச்சுர தம்படி பெய்து
கலக்கெலி லுலரவிடு
விரும்பு சதாபல சுரசத் தவ்வண
மீட்டுமுன் விதிபுரிமுன்
விடுசுர சம்பா லந்தஞ் சேறாம்
விண்டுத ழைக்குழியுண்
கரும்பினில் வந்திடு வட்டென
விடுமரி காணப் பொடிபணமே
கமழ்மது துப்பு முருகு ததிக்குள்
கையா டிருபொழுதும்
அரும்புதி வாவொரு பதுபது
பதுபது ஆமிலம் விட்டுதிரத்
தழிவுமும் மலநரை அசதிய
தாமிவை அழலிடு துலவமரோ"

2. AYA NAAGAM

Though this is not in use nowadays, it is considered as useful in the treatment of disorders of bone marrow.

இரும்பிலே, பிறந்த நாக
மெலும்பிலே, நிறைந்த ரோக
மிறங்கவே
துறந்த னேக
மிச்சைப்படி மெச்சப்பெறு
மச்சத்தினை யெவர்பாலுரைப்பார் களேனு மிகுபத்திய
முவமா மட்பாவை யோர் குறையருக்கி
நவதானியப் பொழிவு நாடுவது நிச்சயம்.

(Agathiyar Karisal)

அயத்திலுதித் திடுநாகப் பெருமை யென்னால்
அரிதறைத்தலெனினு நனியறையக் கேண்மோ;
பயத்திலுதித் திடுகனலா நோயின் வர்க்கப்
பாராவாரத் தைவரட்ட டுத்த நாளும்
நயத்திலுதித் திடும்பத்யக் கடைப்பா டில்லை
நங்கையொன்றே நன்கையொன்றே நாடிப் பார்க்கில்
சலத்திலுதித் திடுவாகை யாயு ளோர்க்குந்
தரிப்பிக்குஞ் சிரிப்பிக்கும் அவரைத் தானே.

(Dhanvanthiri Vagadam)

கரும்பொனி லான நாகத்தி னதிசயம்
பெரும்புவி மீதிற் பிரசங்கிப் பாரிலை
விரும்பின போர்க்கு வியாதியுண் டோவிடல்
வரும்பிணி யான மடவர லொன்றுமே.

(Thirumoolar Kanmakaandam 1000)

It cures the diseases related to brain and therefore one should not have sexual cantact while taking this medicine.

AYA NAAGA PARPAM (CHUNNAM)

Purified and detoxified *Ayanaagam* (35 gms) is triturated with the leaf juice of Indian acalypha, long pepper plant, trailing eclipta and Glinus lotoides. The resultant mixtrue is then made into a cake and subjected to puda process.

Note: Dosage and duration : According to the severity of the disease.

Name of the juices	Quantity required in grams	No. of days required for grinding	No. of days required for drying the cakes	No. of days required for drying kavasam	No.of days dung cakes required for puda
(1)	(2)	(3)	(4)	(5)	(6)
1. Indian Acalypha Juice *(kuppai meni)*	4	8	7	1	44
2. Glinus lotoides juice *(cheruppadai)*	3	7	6	1	36
3. Long pepper juice	.2	6	5	1	27
4. Trailing eclipta *(karisalankanni)*	1	5	4	1	16

Adjuvants	Curable Diseases
1. Toddy of Palmyra tree or Coconut tree or Date tree	Ascites, throbbing pain, Haemiplegia, cramps and rigidity, vomiting due to deranged vatha. Testicular swelling, and arthritis.
2. Honey	Vatha fever, anuria, delirium due to deranged vatha, vathapitha veppam, vathakapha uttinam, gonorrhoea, gonococcal.
3. Water	Pitha diseases, hiccup, vomiting pitha vayu, hyper salivation, Torticollis, arthritis, dyspepsia, sweating, making prediction *(asareeri)*,rigidity, smiling with out relevance*(punnagai koadal)*.
4. Sugar (or) candy	Urinary tract infections, diabetes, over talk and gnashing the teeth, anadipsia and appetite.
5. Cow's milk or breast milk or goat's milk or cow dung essence	Rigor with fever due to deranged vatha, intermittent fevers, small pox, plague, sinusitis, dropsy, accumulation of fluid, menorrhagia, leprosy, hyperpigmentation, ascites, abdominal distension, heart attack.
6. Butter	Scabies (red patch of the skin) erythematusus, acne, abscess, impetigo,dryness due to dehydration, opthalmia, keratitis, myopia, terigium, epiphora, stye, chalazion, discharge of eye, hair fall in the eye lashes, headache,migraine, rhinitis and profuse sweating.

3. EHGU

The other names for *ehgu* being *Ayakadisu, Aram, Urukku, Ehghu, Ezhugu, Olukarai, Manivall, Kittalogam, Ratah logam, Theeksanam, Malaikudori and Vattral logum.*

Eghu (steel) is made from iron in India at Mysore. There are 6 types in it.

It is astringent in taste and the potency in hot. It has actions similar to that of iron in the same variation.

General properties:

It is useful in treating diseases of teeth *(thantha rogam)*, gingivitis *(thanthamoola noi)*, alasam, opthalmia (*kannoi)*, anasarca *(veekam)*, spermatorrhoea *(sukkila nattam)*, anaemia *(udal veluppu)*, weakness *(thurpalam)* and tuberculosis as said in the following verse:

> "தந்தமந்த மூலவுரு தாது நட்டஞ் சோபைகண்ணோய்
> வந்தமந்தம் பாண்டுவினை வன்மைகுன்றல் - முந்தப்
> பெருக்கிடையாய் நீட்டுகப பேத மிவைகட்
> குருக்கிடையா தோட்டு முரை."

Purification:

Ehgu powder (35 gm) is soaked in 210 gms juice of cashew flower (Anacardium occidentalis) and insolated from morning to evening for six days. The powder is dried without adding the juice for two days. This process is repeated again for two more times. From 25th day onwards, it is insolated for ten days by adding the above juice regularly. Then it is dried for two days without adding the juice, and the resultant material is washed in water and stored.

Other method of purification:

1. An old chisel is heated in a furnace and rubbed in goat's bile till it becomes brighten. Each time fresh bile should be used.

2. Steel chisel is made into thin plate and heated and then dipped in Vinegar for three times. This process should be repeated with oil. cow's urine and decoction of horsegram. Each time fresh liquid material should be used. Then it is powdered for use.

EHGU PARPAM

Purified and detoxified Steel powder (35 gm.) is taken and triturated inthe juices as shown in the table below. Cakes are made, dried and is taken outafter *puda.* Only fresh juices should be used for each day. Cakes are dried in the daylight as well as in dew as explained in the following Tamil verses.

" நனிபட்ட வாகடர் நாட்டு முறைபொருள்
துனிபட்ட கங்குலிற் றுன்னிய சீதப்
பனிபட்ட தில்லையேற் பாடுபட் டுங்கரி!
கனிபட்ட வரமெனக் கண்டுகொள் வீர்களே"

(Thirumoolar kanma kaandam)

"கோனாட்டுக் குட்டித்தாய் ராமநாட்டுக் குள்ளே
கூடாவிட் டாற்பாலைக் கூட்டக் கூடாதே
வானாட்டை வெள்ளாடு செம்மறி யாட்டின்
மாக்க மறிநல்ல கம்பளி யாடே
தேனாட்ட நீர்கூட்டி மேலாள மந்தை
சின்ன குடிசையிற் சிக்கவைப் பாயே.
நானாட்ட வேணுமோ நீயாட்டொ ணாதோ
நாமக்கோன் கைத்தடி நாயும்போ காதோ."

(Edaikaattu Devanaayaganar)

Test for parpam:

If a small amount of *parpam* (gingelly seed size) is put in to the coconut toddy or palmyra toddy or dates tree toddy, the toddy turns clear.

Dose:

The ideal dose for Ehgu *parpam* is ¼ size of a grain; half of the size of a pulse is mediocre. But doses of ¾ size of a grain is not advisable, and the full size of a grain is to be avoided.

Duration of treatment:

It is preferable to take Ehgu *parpam* for nine days. This can also be taken for eighteen days; but it is mediocrity. But it is not advisable to take the medicine for more than twenty seven days.

Name of the juices	Quantity required in grams	No. of days required for grinding	No. of days required for drying the cakes	No. of days required for drying kavasam	No.of days dung cakes required for puda
(1)	(2)	(3)	(4)	(5)	(6)
Root bark juice of black babool	105	6	5	1	64
(Acacia arabica) Root bark juice of mango tree	70	6	5	1	48
(Mangifera in dica) Root bark juice of *Oanan kodi* (Lettsomia aggregata)	52	50	65	1	36

Regimen and Diet restriction:

Food stuffs and mangoes should not be taken. Sexual activity should be avoided. Butter, ghee, milk, sugarcandy, sugar, wheat flour and pulse flour can be taken without any restriction.

ADJUVANTS	CURABLE DISEASES
1. Cold Water	Vatha and associated illnesses such as scrotal swelling *(anda vatham)*, tetanus *(dhanur vatham)*, paralysis *(parisavayu)*, Opthalmia *(nethira vayu)*.
2. Butter	Pitha and associated illnesses such as *vatha pitham, pitha veppam,* delirium due to pitha *(pitha sanni)*, anaemia due to pitha *(pitha paandu)*, hiccup due to pitha *(pitha vikkal)*, *pitha anilam*, dryness due to pitha *(pitha varatchi)*, throbbing pain due to pitha*(pitha soolai)*, urinary disease due to pitha *(pitha neerkattu)*, ascites due to pitha *(pitha makodharam)*,
3. Juice of Garlic (Allium sativum)	kapha associated illnesses, vatha kapha, throbbing pain *(kapha vatha soolai)*, pyrexia due to kapha *(kapha suram)*, anaemia due to kapha *(kapha paandu)*.
4. Palmyra toddy or	*Pitha sanni*
Coconut toddy or	*Vidapatha sanni,*
Dates toddy or	*Kurothaga sanni,*
	Sugarcane juice *Maaraga sanni, Unmatha sanni*
5. Gingelly seed	Gastric ulcer soaked water abdominal diseases *(Gunmum)*
6. Coconut milk	Hyperpyrexia and its associated ill nesses such as *maha suram (athi veppam), suraa nilam, surapallai, sura manthiyam, surameesuram.*

7. Mixture of Honey (Honey and Water)	Palsy and its sub divisions such as parkinsonism *(nadukku vatham, adukku unmaththam, nadukkaan alam.)*

Note : It is important to note that in Siddha system eventhough the medicine is same, its adjuvant depends upon the place where the patient lives, his physical condition etc.

Other methods of preparation of Ehgu Parpam

1. The ehgu powder is heated and dipped in juice of Three lobed night shade (Solanum trilobatum) and then washed to get it purified. 10 parts of this steel powder, one part of mercuric chloride and one part of arsenic trioxide are triturated by adding *Sanga diravagam;* The resultant product is then put into puda process to get the *parpam.*

This parpam when given along with wild Asparagus (Asparagus racemosa) root powder and ghee or honey, 60 kinds of diseases of the abdomen (*kundha meleral)* are cured.

2. Purified ehgu powder is soaked in the juice of sour Pomegranates (Punica granatum) in 1:5 ratio and insolated for one day and then washed. This procedure is repeated thrice. Then the powder is placed in a mortar and triturated with the juice of Black nightshade (Solanum nigrum) for 12 hours (½ day- four *samam).* Cakes are made, dried and put to puda process; it is taken out after cooling and the parpam is stored for use.

Dose: 200mg- 400 mg

Adjuvants : Sugar, ghee, honey, sandal and rose water syrup.

A mixture of cumin (Cuminum cyminum) powder and honey (4 gm each) and the parpam is administered in arthritic diseases (*kaikaal mudakku*) and in throbbing pain *(soolai).*

A mixture of black cumin (Nigella sativa) powder and honey 4gm each) is used as an adjuvant to the parpam in venereal sores, like *megapunn, karu megam and pulli megam.*

EHGU CHENDOORAM

Ingredients:

Purified Ehgu powder	35 gm
Areca nut flower juice (Areca catechu)	q.s
Whole plant juice of Malabar glory lily (Gloriosa superba)	q.s
Leaves juice of common mountain ebony (Bauhinia racemosa)	q.s
Leaf juice of Mango tree (Mangifera indica).	q.s

Purified ehgu powder is triturated with the above juices respectively. Small cakes are made and placed in an earthen plate and sealed with mud pasted cloth. It is dried and put to puda process to obtain the *chendooram*.

Adjuvants	***Curable diseases***
Butter	*Vikada vatham*
Toddy	Cough
Ghee	Anasarca
Rose water	Gastric ulcer - Abdominal disease
Sugarcane (Saccharum officinarum)	Delirium *(Aabathu sannithodam)*
Grape juice- Vitis vinifera *(Theevathatchi* juice*)*	Giddiness due to Pitha
Pepper (Piper nigrum)	Tridhosa state affecting the brain *(kapala sanni)*
Allium sativum *(vellulli*)	Abdominal distention *(uruthira vayu)*
Juice of bamboo (Bambusa arundinacea)	Terminal illness *(marana vathai)*

Other Method :

1. Ten old chisels are heated in a furnace to red hot and dipped in the urine mixture of goat and cow. The chisel powder will fall down. This powder is triturated with the juice of trailing eclipta

(Eclipta prostrata). Cakes are made and placed over banyan leaves and kept in a mud plate. It is covered by another mud plate and sealed and the subjected to gaja puda. The Puda process is repeated with then juices of Lonidium suffrutiocosum *(orithal thamarai)* and Indian aloes (Aloe vera). Now the chendooram will be formed in the colour of flame like the forest flower (Butea monosperma).

Dose: 488 mg

Adjuvants and curable diseases:

1. Thripala chooranam, jaggery and honey mixture	Obesity
2. Ghee	Lean patients(for weight gaining)

The special property of the drug is to restore black hair from greying and to maintain youthfulness.

2. Ehgu (350 gm) is made into a thin plate, heated in a furnace and immersed in the juice of Nux vomica and the powder, which is falling down in to the pot is collected. The powder (35 gm.) is triturated in a mortar with *marutham* bark juice (Terminalia arjuna) for 12 hours and made into cakes and dried. It is subjected to puda process with cow dung cakes - 24 times of the weight of the cakes. The product derived after puda process is triturated with jambul bark juice. Again it is subjected to three pudas to get the *chendooram.*

Dose: 200mg - 300 mg

Adjuvants:

Butter, ghee, honey, sugarcane juice and garlic juice.

Diseases cured:

Anaemia *(paandu)*, respiratory illness*(kasam)*, gastric ulcer*(gunmam)*, delirium *(sanni)*, infection(*kirumi)* and disorders of vayu. Nervous system will be stimulated besides giving the sensation of well being and enthusiasm.

THIRILOGA CHENDOORAM

1. Iron	35 gm.
2. Magnet	35 gm.
3. Mica	35 gm.
4. Sulphur	105 gm.
5. Mercury	52.5 gm.
6. Fuller's earth	15.3 gm.
7. Cinnabar	17.5 gm.

The first five drugs are triturated with lime juice in a mortar. Fuller's earth is then added and triturated with the juice of yellow flower Eclipta plant (Wedelia calendulacea) for 12 hours. This is repeated with the juice of Prostrate shrub (Mollugo lotoides) for 12 hours. It is made into small thin cakes and dried and then calcinated with 100 cow dung cakes. Cinna bar should be added to it and triturated with Indian Aloes juice (Aloe vera) for 12 hours and made into small thin cakes and dried. It is then calcinated with 30 cow dung cakes to get the *chendooram.*

Dose: 488 mg

Adjuvants: Ghee and *Sanjeevi chooranam*

Diseases cured:

Pitha, anaemia *(paandu)*, cough, gonorrhoea, sense of heat *(utchoodu) and* vayu. The body will be cooled.

4. KARUVANGAM

(PLUMBUM - LEAD)

Lead is known as *Eeyam, Kareeyam, Karunagam and Seesam*. It is also known as Plumbum. Lead which does not decompose on any account is present in mountains and in some places it is found in mines.

Lead is available in two kinds:

1. Found as minute particles mixed with sand and small stones coming from fountains.

2 Found mixed with copper, Iron and salts etc. This form is inferior to the above type. However this can be used after purification.

Lead is also found in traces in many plants such as....

"சீதை முத்தி ருக்கஞ் செவிவெள்ளைச் சார்வேளை
பாதுகைவே லிப்பருத்தி முஸ்தையும் - கோதில்சுரை
சீந்தில் விழுதி சிறுபீளை வெள்ளறுகும்
ஏந்திழையீ ரீயமு லி"

Our ancestors first used the roots and leaves of the herbals initially for curing the disease. Only when the disease could not be controlled with herbals, metals were used.

"வேர் பாரு தழைபாரு மிஞ்சினக்கால்,
மெல்ல மெல்லப் பற்பசெந் தூரம்பாரே"

Substances Antagonist to Lead:

Mica, ehgu, iron, rock salt, sulphur, magnet, shell, arsenic sulphide *(gowri)*, crab, snail, bismuth, pottsaium nitrate, asbestos and bitumen are antagonists to lead.

Substances Synergetic to Lead:

Mercury, copper, zinc alloy, earthworm, copper extracted from peacock feather *(mayurasembu)*. silver and stannum (tin), are synergistic to lead.

Lead has got carminative, antiseptic, diuretic and astringent properties besides being an appetite stimulant. Its potency is hot and its taste is bitter.

"பன்மரநஞ் சக்கிநோய் பாகர்த் தபிவிரணங்
குன்மங்கால் சூலங் குதவிரணஞ் -சன்ம
பெருநாக மேக பிணிசுரமி வற்றைக்
கருநாக மேநீக்குங் காண்."

Lead may be used in the treatment of poison caused due to plants such as Polygonum barbatum *(aatralari)*, diseases of the eyes, gastric ulcer *(gunmum)*, diseases of vatha, throbbing pain *(soolai)*, fistula in anus *(pagandara viranam)*, elephantiasis graecor um*(kajasaruma kuttam)*, venereal diseases*(mega pini)* and pyrexia.

"ஆகத்தி லுண்டான வத்திசுரம் பித்தசுரம்
போகப் பசிமுளப் பூதலத்தில் - வாகைபெருஞ்
சங்கத்தை நேராகச் சாற்றுமுறை பண்டிதர்கள்
வங்கத்தை நீறாக்கு வார்"

Lead is also used in fever associated with bone disease, pitha disease and pyrexia due to pitha. It is also used in the treatment of gonorrhoea *(piramegam)*, ascites *(peruvayiru)*, dyspepsia *(uppusam)*, anaemia *(paandu)*, ulcer and diseases of the eye *(nethira pini)*.

"சொன்னதோர் காரீயக் குணத்தைக் கேளாய்
சுத்தபிர மேகத்தைப் போக்குவிக்கும்
....
"சொன்னதோர் பெருவயிறு உப்பு சங்கள்
சூரான பாண்டோடு விரணம் போக்கும்
நின்னதோர் நேத்திரத்தின் வியாதி யெல்லாம்
நீக்கிவிடும்......................................"

Eventhough Mercury is the drug of choice for venereal ulcer, it is preferable to use lead before mercury in this disease.

"காரீயத்தினால் வெல்ல வரிய
மேகக் கிரந்தியை ரசத்தினால்
வெல்லுங் காரீயத்தினை லோக
நாயகன் காட்ட லெனவே"

Lead was used in the management of cancer in foreign countries in the form of injection.

It should be remembered that lead should be used only after proper purification; otherwise it may cause severe adverse effects.

Methods of Purification and Detoxification of Lead:

Lead	35 gm
Whole plant juice of Diplocyclos palmatus *(iveli)*	210 gm.- I time
,, ,,	5.3 litre II time

Lead powder is soaked in 210 gm. of the plant juice of Diplocyclos palmatus *(iveli)* and insolated for a day. This process is repeated for nine more days and again insolated for two days without adding the juice. Again this process is repeated once. The lead is placed in an earthen pot and the juice (5.3 litre) is added. The pot is closed with suitable lid and sealed with mud pasted cloth. It is burried by covering cow dung ash for 20 days and thus purified form of lead is obtained. This purifed lead is preferred for preparing parpam, chendooram and pills.

This purification method is suitable for both lead and tin.

Other methods:

1. Molted Lead is poured in a pot containing goat's urine, gingelly oil and juice of Cissus quadrangularis. It is then allowed to cool.

2. Molted Lead is poured in a mixture of turmeric powder and the juice of five leaved chaste tree (Vitex negundo) This process is repeated twice and purified lead is obtained. Also the lead powder is soaked in juice of Vitex negundo and insolated for getting purified.

3. It is said that the stool of bandicoot can also be used to purify lead.

VANGA PARPAM

Purified lead (35 gm) is triturated properly with juces as shown in the following table:

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of days dung cakes required for puda (6)
1. Juice of Indian spinacea leaves *(pasaraileave)* (Portulaca quadrifida)	210	6	5	1	45
2 Juice of sky lotus duck weed *Akasa thamarai* (Pistia stratiotes)	175	5	4	1	36
3 Juice of soma leaves *vanni* (Prosopis spicigera)	140	4	3	1	26
4. Juice of Turmeric *pasu manjal* (Curcuma longa)	105	3	2	1	18
5.Whole plant Juice of trailing indigo- *seppu nerinjil* (Indigoferaenneaphylla)	70	1	1	1	16
6. Juice of Elephant foot yam leaves (Amorpho phallus paeonii folius)	35	1	1	1	9
7. Root bark juice of black babool	105	6	5	1	64
8. (Acacia arabica) Root bark juice of mango tree	70	6	5	1	48
9.(Mangifera in dica) Root bark juice of *Oanan kodi*	52	50	65	1	36

The ideal dose of lead parpam so prepared will be ¼ th of red gram (cajanus cajan) weight of half of the weight of the red gram is mediocre and ¾th of the weight of the red gram is not advisable and the full size is to be avoided totally.

Adjuvants	**Curable diseases**
1. Juice of Adamant creeper (Cissus quadrangularis)	Tremors *(sinukkuvatham)*, (sensation of sound, fluttering and pain, rumbling sound of the head), aneamia *(paandu)*, nausea *(vellokkalam)*, intermit tent fever - rigor *(murai nalir kangai)*
2. Juice of Basil (Ocimum sanctum)	hyperasthenia sense of heat, tremors due to loss of appetite and starvation. *(thimir vatham)*
3. Breast milk	Toxic manifestation of vatha *(vida vayu)*, angina pectoris *(maarjala vayu)*, hemiplegia *(paarisa vayu)*.
4. Juice of Indian Aloes	Tremors of the head, vertigo, excessive sweating *(sinukku vatham)*, convulsion *(kakai vali)*, menorrhagia *(Perumbadu)*, syncope *(moorchai)*, agony *(maranavazhi)*, *rheumatic affection and* unconscious due to vatha diarrhoea *(paarisa vatha kiraani)*.
5. Hot water	Giddiness associated with dyspepsia, gastric ulcer *(gunmam)*, sour belching *puliyeppam*), vomiting, hiccough, pruritis *(thinavu)*, taenia *(padar vatham)*, sprain *(pidippu)*, ascites *(mahodaram)*, diabetes *(neerizhuvu)* and oliguria *(neerarugal)*

6 .Honey	Tinnitus associated fever with rigor, eye diseases *(nethira vayu)* terigium *(thurmamisa padalam)*
7. Toddy	Vatha diseases
8. Cold water	Pitha diseases
9. Sugarcane juice (Saccharum officinarum)	Kapha diseases

Other adjuvants and disease conditions:

1. Sweet flag decoction (Acorus calamus)	Prevents various diseases and protects the body
2. Decoction of pepper (Piper nigrum)	Hepato and splenomegaly *(vallai)* Anaemia due to pitha *(pitha sogai)*
3. Decoction of long pepper (Piper longum)	Cardiac disorder, anaemia due to pitha *(pitha paandu)*

Duration of treatment with lead parpam and dietary restriction:

The lead parpam should be taken for one month during which the following foodstuff should not be taken :

1. Italian millet (Setaria italica - *thinai)*
2. Kodo millet (Paspalum Scrobiculatum) - *varagu)*
3. Opium (Pappaver somniferum - *abini)*
4. Horse gram (Macrotyloma uniflorum - *kollu)*
5. Tamarind (Tamarindus indica)
6. Sesban (Sesbania grandiflora - *agathi)*
7. Pumpkin (Cucurbita maxima - *poosani)*

During this period sexual activity should be avoided.

Other methods of preparation of Vanga Parpam:

1. Consolidated brittle lead is obtained by heating the lead pouring of indian turnsole juice (Heliotropium indicum)

(*Surukkidal)*. The lead is triturated with the above juice and made into small cakes and dried. It is sealed and subjected to puda to obtain parpam used in the treatment of tuberculosis with water.

2. The lead is triturated with basil (Ocimum sanctum) juice and put into puda process to get the parpam.

3. The Lead is triturated with the juice of cLommon milk hedge Euphorbia ligularia- *(elaikkalli)* for three days, cakes are made, dried and subjected to puda process to get the parpam. This parpam is used to treat tuberculosis. On regular consumption the body gets golden complexion.

Note: * ***Surukkidal*** - To purify or consolidating the substances, keep the substances on a mica plate and heat with low heat and drop the juice continuously.Purified lead powder is triturated with the leaves juice of white flowered justica (Rhinacanthus nasutas- 140 gm.) and stemp juice of plantain separately for four days. Cakes are made and dried for three days. It is sealed then dried for one more day. It is then subject to puda process with 30 cowdung cakes, to get the chendooram.

VANGA (LEAD) CHENDOORAM

Lead powder	35 gm
Leaf juice of white flowered justica (Rhinacanthus nasutas-*naagamallee)*	140 gm
Stemp juice of plantain tree (Musa paradisiaca)	140 gm

Adjuvants	Curable diseases
1. Jaggery	Delirium due to pitha *(pitha sanni)*
2. Milk	Tumours *(kazhalai)*
3. Latex of Banyan (Ficus bengalensis)	Urinary disease *(sala disease)*
4. Sugarcane juice (Saccharum officinarum)	Cervical lymphatis *(kandamalai)*

5.	Sandal jelly (Santalum album)	Gastric ulcer *(Saththi gunmum)*
6.	Sugar	Eye disorders
7.	Soma tree leaves juice (Prosopis spicigera)	Dryness & warmness of heat
8.	Toddy	Hiccough
9.	Urine	Tuberculosis *(kaasam)*
10.	Honey	Tinea *(themal)*

Other methods of preparation of Vanga chendooram:

Ingredients:

Lead *(Vangam)*	35 gm
Turmeric powder (Curcuma longa)	280 gm
Whole plant of prickly chaff flower (Achyranthes aspera)	q..s
Soap	8.75 gm
Pottassium nitrate	5.10 gm
Yellow orpiment	5.1 0 gm.

Lead is molted in a mud pot adding the turmeric powder gradually. It is then roasted with the whole plant of prickly chaff flower (Achyranthes aspera) for 15 minutes. It is then roasted with soap, pottasium nitrate and finally with yellow orpiment to obtain the *chendooram*. As Lead prevents manymore diseases continued through congenital or manifested after birth and protects the body from death by changing it as a *'karpa degam'* resembling a *'Sivayogi'*.

"உள்ளி ருந்தவினை மேலெ ழும்பியொரு
    கோடி கோடிபிணி யாகிடும்.
எள்ள தளவுமி நூற் கன்ம மேதுமிலை
    மேலு மேலுமொளி யாவதாய்க்
கள்ள மில்லைகரு வங்க முண்டவர்கள்
    [illegible]ற்ப தேகசிவ யோகிகாண்
வின்[illegible]லாமோபெரி யோர்க ளிட்டவிதி
    [illegible]க மென்றவையொ ளிக்குமே"

Fumigation of Lead for the treatment of wounds:

Lead

Mercury

Crude copper sulphate

Yellow sulphate of arsenic

Sal tree (Shorea robusta - *Karun kungilium)*

Mustard (Brassica juncea)

Indian mudar (Calotropis gigantea)

Tobacco (Nicotiana tobaaccum)

The above drugs are triturated with the juice of tobacco. This is heated over the bark of tamarind. The fume heals the venereal ulcers.

Lead bandage for ulcer:

Vanga chendooram (280 gm) is heated in an iron pot along with gingelly oil (560 gm). It is stirred well with an iron spoon. The resulting viscous liquid is spread over a cloth and the wound is dressed with this for healing .

Lead ointment for ulcers (wounds):

Vanga chendooram	175 gm
Trisulphate of lead *(Miruthaar singi)*	175 gm
Copper Sulphate	87.5 gm
Butter	1, 400 gm

The above ingredients are triturated and powdered and again triturated with butter and the ointment so obtained is applied over the ulcer for healing

Other method of preparation of lead ointment.

Group - A

Coconut oil	2 litres
Bees wax	800 gm

Group - B

Vanga chendooram	100 gm
Rasa chendooram	50 gm
Mercury subchloride	50 gm
Trisulphate of lead	100 gm

Group-B drugs are powdered individually. Coconut oil is boiled in a hearth. The bees wax is cut into small pieces and added to it. After it has melted it is removed from the oven. Then the powder is added to the coconut oil and allowed to cool and stirred well until it becomes solid.

It is used as an external application for ulcers.

Lead stick

Application of collyrium with the help of lead stick, prevents the eye diseases, as stressed in the following Tamil verse :

"காரீயக் கோல்கள் தம்மிற்
கருதுமஞ் சனத்தை வாங்கி
நேரதாய் விழியில் தீட்ட நிலை
நில்லா ரோக மாகும்"

Signs and symptoms of lead poisoning:

Darkening or bluish discolouration of the gum, abdominal diseases, umbilical pain, constipation, distension, tiredness and weakness of the limbs, paralysis, jaundice, dyspnoea and pruritis are the signs of lead poisoning.

Antidote for lead poisoning:

1. The leaf juice of black honey shrub (Phyllanthus multiflorus - *pullanji*) in the dose of 42 ml has to be given twice daily till the toxic symptoms disappear.

2. The cooked meat of black hen is also an antidote.

3. A poultice is made from the root of (Vitis lanata) - *kaattu-puliaranai* in dose of equivalent to the size of Indian night shade fruit (solanum pubescens). It is given until detoxification.

5. KAANTHAM

(MAGNETIC OXIDE OF IRON)

There are different varieties of magnet, such as,

1. *Kal kaantham*
2. *Oosi kaantham*
3. *Pachai kaantham*
4. *Arakku kaantham*
5. *Mayir kaantham*
6. *Urulai kaantham*
7. *Palagai kaantham* and
8. *Thagattu kaantham*

In general. the magnetic oxide of iron has got the similar properties as iron. However, it is considered that the magnetic oxide of iron is superior to iron in many aspects. This is very effective in the treatment of swelling, ulcer *(gunmum)*, jaundice (*kamaalai*), venereal disease (*megam*), diseases of three humours, leucorrhoea *(vellai)*. kapha vatha diseases, dyspepsia (*mantham*), anasarca (*mahodaram*), eye diseases, gonorrhoea (*brahmiyam*), and splenomegaly. It also increases longevity.

General properties:

The magnetic stone cures the following diseases.

Swelling ,*gunmum*, jaundice, gonorrhoea, dropsy, disorders of three humours, leucorrhoea, cold, rheumatic disorders, dyspepsia, anasarca, eye diseases and spleenic tumour. It also increases the life span.

Consumption of milk boiled in a vessel made up of magnetic oxide of iron, improves blood and strengthens the body. The boiled milk never spill over in a magnetic vessel.

Purification and detoxification:

Magnetic oxide of iron	35 gm
Root bark juice of Tanner's cassia (Cassia auriculata) - *Ponnavarai*	210 gm

Magnet is soaked in root juice of Tanner's cassia and insolated from morning to evening for ten days. Then it is dried for two days without adding the juice. This process is repeated twice and washed to obtain purified and detoxified magnet. The medicine manufactured from the magnetic oxide of iron so prepared destroys diseases of vatha and protects life.

Other methods of purification of magnetic oxide of iron:

Ingredients:

1. Magnetic oxide of Iron	35 gm
2. Indian laburnum (Cassia fistula)	280 gm
3. Basil (Ocimum sanctum)	280 gm
4. Indian pennywort (Centella asiatica)	280 gm

1. Magnet is soaked in the leaf juice of Indian laburnum (Cassia fistulla) and insolated for nine days. (Daily fresh juice should be used). Then it is dried without adding the juice. This process is repeated with the leaves juice of basil (Ocimum sanctum) and Indian pennywort (Centella asiatica). After twenty seven days, the purified form of magnetic oxide of iron is obtained.

2. The magnetic oxide of iron is powdered and wrapped in a cloth. It is boiled by vinegar steam and with the steam of horse gram decoction. Then it is boiled, washed and dried.

3. The magnetic oxide of iron is soaked in lemon juice, sour old rice water fermentation and sour butter milk for three days in each. It is then dried in sun shine, and washed. Thus its purified form is obtained.

4. The magnetic oxide of iron is heated in a furnace and dipped in horse gram decoction for 7 to 21 times to get it in purified form.

Parpam:

The purification powder of magnetic oxide of iron (35 gm) is taken and triturated with the following juices and put into *puda* process:

Thus cakes are made, dried and subjected to *pudam*. Only freshly prepared juices should be used everyday. The cakes should be exposed to both sun light and dew.

According to the text *'Thirumoolar Kanmakandam - 1000'* the parpam so prepared cures all the diseases. *'Bogar - 300'* and *'Dhanvantri Vagada puranam'* also substantiate this, as stressed in the following Tamil verses.

"காந்தத்தின் பற்பத்தைக் காணவொண்ணா தம்மா
நீந்தப்ப டாப்பிணி நீரைக் கடக்கலாம்
பாந்தப்படுநாவாய்ப் பண்டித மீகாமன்
சாந்தக் குணமுடைத் தண்டுக்கோ லாகுமே."

(Thirumoolar Kanma Kanndam -1000)

"கேளப்பா காந்தபற்ப முறையைச் செய்யக்
கிடையாது; கிடைத்தக்கா லஃதே நன்மை;
நாளப்பா வளருமடா மனிதர்க் கெல்லாம்
நரராக மாட்டார்கள், சுரரா வார்கள்;
தூளப்பா காந்தமென்றா லயத்தை வாங்குந்
தொழிலெனவே பிணிக்கூட்டந் தொலைய வாங்கும்;
வேளப்பா குருமுனிவர்க் குரைத்த மார்க்கம்
வேறல்ல வாங்கதுவே விசித மாமே"

(Bogar - 300)

Dosage of the Parpam:

The preferred dose is equivalent to ¼th of the size of the Abrus precatorius (*Kunrımani* which weighs about 130 mg). The first part is preferable; second is mediocre; the third is not advisable and the fourth is to be avoided.

Adjuvants	Curable diseases
1. Pure water	Vatha and associated illnesses such as ascites*(peruvayiru)*, abdominal distention *(pallai)*

2. Hot water	Pitha and associated illnesses such as vayu due to insanity *(pythiya vayu)*, anaemia due to Insanity *(paythiya paandu)*, delirium due to insanty *(payithiya sanni)*, jaundice *(kaamalai)*, chronic delirium *(maha sanni)*.
3. Garlic oil (Allium sativum)	Kapha and associated illnesses such as delirium *(kapha sanni)*, infantile diarrhoea *(bala kiraani)*, kapha disease *(chetpa vaathanai)*, menorrhagia *(perumpadu)*, abdominal pain, pleurisy *(pakka soolai)*, throbbing pain due to indigestion *(uppusa soolai)*, asthma *(vega suvasam)*, oliguria (*neer kattu)*, pyrexia due to kapha, disease due to heat and leprosy.
4. Pepper oil	Abdominal distension due to asthma,hard breathing, heat,fever due to vatha pitham *(vathanalasuram)*, menorrhagia*(perumpaadu)*, abdominal diseases,hemiplegia *(paarisa vayu*),anasarca *(mahotharam)*,indigestion *(porumal)*, heartattack and abdominal pain assocaited with cough.
5. Basil juice (Ocimum sanctum)	Venereal heat (*mega kangai*), hemoptysis *(raththa peenisam*), tuberculosis with hematemesis (*raththa kaasa rogam)*, asthma, respiratory diseases associated with cough and hemoptysis *(raththa irumal suvasa kaasam*), delirium due to acute fluid.

	diarrhoea *(athisara sanni)*, and fever associated with ulcer *(rana thaba sura kopham).*
6. Honey	Cough associated with pulmonary tuberculosis, hiccough, rheumatic affection *(vatha pidippu)*, chest dis ease*(marbu noi)*. heart attack, pro fuse sweating, delirium due to vatha, delirium due to pitha, gastric ulcer *(erigunmum)*,vomiting,gas tritis with burning sensation *(erigunmasaththi)*, anaemia due to gastric ulcer (eri gunma paandu), Hemiplegia *(paarissa soolai)* with pain and plague *(peruvaari kaichal)*
7. Rosary nut juice (Elaeocarpus sphaericus)	Delirium due to vatha (*vatha sanni*), epilepsy *(kakkai vali)*. syncope *(moorchai vali)*,hysteria *(pythiyasa nni)*,swooning *(unmatha aangara monoratha moorchai)*, hemiplegia *(parisa vayu)*, hiccough due to hard breathing *(oortha suvasa vikkal)*, pyrexia due to tridosha *(tridhoda suram)*, penis cancer *(linga puttru)*, gastric ulcer (gunmum), cancer of the vulva *(Yoni puttru)*. fistula in ano *(pavut tiram)*. anorectal abscess *(thurmamisa moola pini)*, and de lirium with pyrexia due to chronic fever *(rana sanni*)

Dietary restrictions during the treatment with the Parpam

Ghee, cow's milk, sugar, butter, dhal varieties, onion, breast milk. water, hot water, wheat varieties and bamboo seeds may be taken.

Use of tamarind, curd, horse gram, gingelly preparations, butter milk, vinegar, tobacco, raagi, millet, little millet and sexual activity should be avoided as stressed in the following Tamil verses.

" ஆச்சியம்பா லக்கார மையா டகிழுலி
ஆச்சியம்பா லக்கார மைதோரை -யாச்சியம்பால்
சிந்தமளை யையவிகொள் சேறெண்மோர் காடிபுகை
சிந்தமளை யையவிகூழ் தே ."

"ஆன விதிவிலக் கிரண்டி லேபலன்
மான பரடுத் திரும்பி னார்சில
அதுதான் பலவிதி
யாம் பொருள்
அக்கா ரத்தொடு நெய்பா லிப்படி
எக்காலத்தினு மெய்தா னிப்படி
யாம்பிர மாங்கனி
தேம்பிழி வீண்புகை
அரிவை யிதுதளல்
வரிசை யறிமினே." *(Agathiyar Karisal)*

"தள்ளலாம் வெள்ளாட்டுக் குட்டியா ரன்றே
தானக்கோன் பெண்ணோடு வொன்றுமே தீதாம்
விள்ளாமற் செம்மறி யாட்டுக்கு நன்மை
விதிவிலக் கென்பது வீரக்கோ னாரே." *(Idaikadar)*

Other methods of Preparation of Parpam:

Purified Magnetic oxide of iron	35 gm
Basil leaf juice (Ocimum sanctum)	70 gm (per day)
Country fig (Ficus racemosa)	140 gm

Purified magnetic oxide of iron is soaked in the basil juice (Ocimum sanctum) in a mortar for three days by adding the fresh juice every day. On the fourth day morning country fig latex (Ficus racemosa) is added and triturated. This is repeated for four days by adding the fresh latex every day. On the eighth day morning cakes are made and dried till ninth day. On the tenth day it is placed in a small mud bowl and covered with another mud bowl. It is then sealed

with a mud packed cloth and dried. Eleventh day morning, it is subjected to puda process with 100 cow dung cakes. On twelth day it is allowed to cool. On thirteenth day the parpam is obtained in pure white form. This parpam improves longevity and strengthens the body like Devas. Even the physicians who prepare this *parpam* will develop good strength as mentioned in the following Tamil verses :

"சுத்தி செய்த காந்தத்தை நிறுத்துக் கொண்டு
தொடியொன்றுக் கிரண்டுபலந் துளசிச் சாறு
துய்க்க நிதம் இவ்வாறே மூன்று வைகல்
துய்ப்பித்தங் கூறியபடி நாலாம் நாளில்

அத்திப்பால் நாற்றொடிவிட் டதைமத் திப்ப
தப்படிநா ளிரட்டையிணை யான பின்னர்
அதையுருட்டி வில்லைசெய்து ரவியோர் நாள்வை
ஐயிரண்டாம் நாளிலதைச் சீலை மண்செய்

வித்தொருநாள் வெயிலுலர்த்திப் பதினோ ராநாள்
விராட்டியெழு பத்திரண்டு மிருபத் தெட்டும்
மேவுபுட மிட்டதனை யொருநா ளாற
விட்டெடுத்துப் பதின்மூன்றாம் நாளிற் பார்க்கச்

சுத்தமாக பதியுணவு போலத் தோன்றும்
சுரரெனவே திறமாவர் துய்த்த பேர்கள்;
சொல்லுமதைப் படைத்தவயித் தியர்வல் லாண்மை
சுவேதவா கனனெனவே துலங்கு வாரே."

Dosage of Parpam and the diseases cured:

If the *parpam* is taken along with honey, ghee, jaggery and salt prepared from heart leaved moon seed and Tinospora cordifolia *(seenthiluppu)*, the following diseases are cured :

Fever associated with kapha and disease of intestine, tuberculosis, stomatitis, thrush, diseases of vatha and respiratory diseases, haemoptysis and diseases of vatha associated with pitha.

The parpam should be given in doses equivalent to the size of mustard, millet, paddy and Indian liquorice seed as stressed in the following Tamil verse:

" காந்தப்பற் பத்தை யுண்ணக்
கடிப்பகை திணைநெல் குன்றி

யந்தர வவிழ்தந் தின்னும்
　　அனுபான மதுநெய் வெல்லம்
சீந்திலுப் பசதி வெப்புச்
　　சீதவெப் பிரத்த காசம்
மாந்தவைச் சரஞ்சு வாசம்
　　வாதபித் தங்கள் போமே"

Dietary restrictions:

During treatment with this *parpam* the following should be avoided:

Ash pumpkin (Benincasa hispida), horse gram(Dolichos biflorus), mustard (Brassica juncea) and vinegar are to be avoided. In addition, great millet (sorghum vulgare) and rice flour should never be taken. If great millet is taken during treatment, the parpam becomes ineffective. Ghee, milk, sugar and wheat may be taken as stressed in the following Tamil verse :

"பத்தியம் இச்சா பத்தியம்
　　பறங்கிகொள் கடுகு காடி
சுத்தமா காது; நேயம்
　　சுதைச்சருக் கரைகோ தும்பை
உத்தமம்; நென்மா மத்தி;
　　உறவொண்ணா திறுங்கெப் போதும் ;
நத்திடில் விருதா வாம் பெண்
　　நாமினி யுரைப்ப தென்னே."

It is considered that if the parpam is taken for one month all the diseases disappear ; if taken for two months physical strength improves.

KAANTHA CHENDOORAM

Ingredients:

Purified magnetic oxide of Iron powder	35 gm
The stemp juice of plantain tree	
Bark juice of wood apple (Limonia acidissima)	q.s
Drumstick bark(Moringa oleifera)	
Lemon juice (Citrus medica)	

Purified magnetic oxide of Iron powder is triturated with the plantain stemp juice for 6 days.Then it is triturated with other juices for 6 days in each. Cakes are made, dried, sealed and subjected to Puda process and the *chendooram* which is bright red in colour akin to the Indian coral tree flower (*murukkan poo)*. The whole process should be completed in twenty four days.

Uses of Kaantha chendooram

Adjuvants	Diseases cured.
1. Butter	Venereal diseases (*mega Pinigal)*
2. Water	Diseases associated with fe ver *(suram*)
3. Cardamom (Elettaria cardomomum)	Diseases associated with kapha
4. Juice of mustard (Brassica juncea)	Rheumatism *(keel pidippu)*
5. Leaves juice of country fig (Ficus racemosa)	Disease associated with dis tension
6. Decoction of bishop's weed (Trachyspermum ammi)	Tinnitus aurium *(kaathiraichal)*
7. Sugar	Palsy - Parkinsonism *(nadukku vatham)*
8. Hot water	Red spots of the skin - *(veppa themal*)
9. Goat's milk	Throbbing pain of the axilalry region *(pakkasoolai)*
10. Cow's milk	Pulmonary tuberculosis

In addition, the chendooram will be very effective in the following conditions :

Umbilical pain, fever associated with diarrhoea, vomiting, cough, bronchitis, wheezing. jaundice *(kaamalai)*, anaemia *(paandu)*

and diseases which is difficult to control as stressed in the following Tamil verse :.

"காந்தச்செந் தூரங் கருதரிய வுந்திவலி
போந்தவதி சாரசுரம் போவதன்றி - வாந்திகப
காசசு வாசவினை காமாலைபாண்டுவொடு
பூசலிடும் நோயனைத்தும் போம்"

Dietary restrictions for the chendooram:

During treatment if tamarind and salt are restricted, the chendooram will be active within a week; if the diet contains tamarind and salt, it takes two weeks time for the drug to work provided that *icha pathiam* is strictly adhered (*Icha pathiam* means avoiding of brinjal (solanum melangena), sesban (sesbania grandiflora) - agatti, mustard (brassica juncea), ash pumpkin (Benincasa hispida), gingelly, cluster bean (cyamopsis tetragonoloba- *Koththavarai)*, mango (mangifera indica) and bitter gourd (momordica charantia) in the diet as stressed in the following Tamil verse :

"பத்தியம் புளியுப் பின்றேற்
    பலிதமாம் வாரத் துள்ளே;
நத்திடி லிரண்டு வாரம்
    நவிலுமிச் சாபத் யங்கொள்
கத்திரிக் காய கத்தி
    கடுகுகூழ் பாண்டம் எள்ளு
கொத்தவ ரைக்காய் மாங்காய்
    கூலக்கா யிவையா காவே."

If the *pathiya* (diet restrictions) is not followed strictly, the effects of the medicine will be lost ; thirst and delirium *(sanni)* will devolop. The body will turn worse as stressed in the following Tamil verse :

"ஆகிய போது மாதர் ஆசையா காதுண் டாகிற்
போகுமிவ் வவிதழ்த நன்மை; போகத்தை யதுவே மாட்டும்;
தாகமுண்டாகும்; கொண்டாற் சன்னிதோ ஷங்க ளேறும்;
நாகவன் மீகந் தேகம் நமனது முடிவுக் காமே."

Other methods of preparation of Kaantha chendooram:

Magnet	35 gm
Worm killer juice (Aristolochia bracteolata)	70 gm
Ginger juice (Zingiber officinale)	70 gm
Straggling prickly shrub (Mimosa rubicaulis-*pulithodakki)*	70 gm
Adament creeper (Cissus quadrangularis)	70 gm
Purging nut (Jatropha curcas)	175 gm
Whitelow plant (Pergularia daemia-*velipparuthi*)	q.s

The magnetic oxide of iron is triturated with the juice of worm killer (Aristolochia bracteolata) for one day. From 2nd day morning to evening it is then triturated in the juice of ginger (Zingiber officinale). On 3rd day it is triturated with the juice of straggling prickly shrub (Mimosa rubicaulis- *pulithodakki)* and on 4th day with the juice of adament creeper (Cissus quadrangularis). On 5th day cakes are made and dried under the shade. For every 35 gm cakes, 175 gm of leaves of purging nut (Jatropha curcas - 5 times) is weighed and is triturated with the juice of white low plant (Pergularia daemia) and crucible is made from half portion of this poultice. The cakes are placed on it; the remaining half portion of poultice is used to cover the crucible and insolated till it is dried completely. Next day it is sealed in a mud packed cloth and then subjected to *puda* with 100 cow dung cakes. On 8th day the cakes are placed in a mud pot; for every 35 gm of cakes, 1.750 gm of fresh goat's urine is added and heated in a hearth for three days. On 12th day, for every 35 gm of this mixture, 350gm of goat's milk is added and cakes are made and dried. Next day sealed with mud packed cloth and exposed to sun-light ; next day it is subjected to *puda* process with 100 cow dung cakes. Then it is triturated with the juices of Indian turnsole leaf (Heliotropium indicum) *thaelkodukkilai* juice, duck weed (Pistia stratiotes), *aakasa tamarai ilai* juice and trailing eclipta (Eclipta prostrata) - *kaiyanthakarai* juice within twenty nine days. Cakes are made and subjected to *puda* process to get the *chendooram*.

2. The powder is added with equal amount of sulphur, placed in a mortar and triturated with the juice of trailing eclipta (Eclipta prostrata) and cakes are made, dried and placed in a earthenware and sealed with mud pasted cloth and subjected to *Gaja puda.* Again equal quantity of sulphur is added and triturated with the above juice and subjected to puda. Again equal quantity of sulphur is added and tiriturated with lime juice and subjected to *puda.*Again equal quantity of sulphur is added and triturated with mother's milk. Cakes are *made and the puda process is repeated.* Sulphur and leadwort (Plumbago zeylanica- *Chitramoolam*) are added in equal quantity and triturated with white of hen's egg . Cakes are again made. *Puda* process *is repeated and it is then triturated in a mortar* with the latex of Indian mudar (Calotropis gigantea- *erukkam paal*) for three hours. Again *it is* subjected *to puda* and the *chendooram* thus obtained is reddish black in colour.

Dosage:
488 mg with honey *("Icha pathiyam"* is to be followed.)

Diseases cured:

Dropsy, anaemia, jaundice due to toxins *(visha paandu)*, abdominal tumor *(kavisai katti)*, anaemia, jaundice, dropsy due to pitha *(pitha paandu)*,fluid retention *(neer ambal)*, scrotal swelling *(anda vayu)* and deranged vatha *(Aanantha vayu).*

3. Purified powder 35 gm is triturated with the white flower juice of mudar (Calotropis gigantea- *vellerukkam* flower) for twelve hours. Small cakes are made, dried and spread in small mud pot and sealed with 7 layers of mud packed cloth. After drying , it is put to puda with 25 cow dung cakes. The *puda* process is repeated for three times to get good *chendooram.*

Adjuvant: *Kaantha chendooram* is to be given with honey.

Dosage: 130 mg - 260mg.

Kaantha chendooram is useful in fever with rigor, oedema of limbs, anaemia etc.

6. CEMPU (CUPRUM-COPPER)

Copper is available in most parts of the world. In North America, it is present in the vicinity of Lake Superior It is also available in Nepal. It is available individually as such and also in combination with gold, silver,tin, lead, zinc, iron, bismuth. sulphur and arsenic compounds.

The drugs made from copper are absorbed through the mucous membranes of stomach and small intestines and stored in the liver, spleen and kidney. Copper is excreted through saliva, excreta and urine.

In ancient Tamil medical literature, it has been mentioned that copper is present in many plant materials and also in worms such as earth worm *(Poonaga poochi)*, Mutella occidentalis *(Indhra kopham - Pattupoochi)*. feathers of peacock and in scalp hair.

Copper has got a shining appearance and brick brown in colour. It melts with a green colour smoke. When cooled, the upper portion of the smoke becomes black in colour. The colour of copper does not change in places where there is no cold wind. It is soluble only in pottassium nitrate liquid .When heated, it may dissolve in sodium chloride (common salt) liquid and in sulphur liquid.When it dissolves a musical sound is heard. Copper absorbs heat and electricity.

The other names of copper are *Avudumbaram, Udhumbaram, Ravi, Raasi, Ravipriyam, Eruvai, Seerunam, Seeruni, Surpam, Sulpam, Thamiram, Thambiram, Thambaram, Parithi, Vadu* and *Vidam*.

The drugs which increase the efficacy of copper are iron, mercury, gold and zinc. The antagonist drugs of copper are lead and salt petre.

Properties of Copper:

Copper has got dehydrating, stimulant, antispasmodic, anticonvulsant and tonic properties. Its taste is pungent and bitter; potency is hot.

Metallic compounds containing copper:

1. Brass	This contains 66 parts of copper and 34 parts of zinc.
2. *Manilogam*:	This contains copper and tin.
3. Bronze	This contains 91 parts of copper and 6 parts of zinc, 2 parts of tin and 1 part of lead.
4. Ancient Brass	This has been made from copper and tin.
5. Cannon metal *(Beerangi logam)*	It contains 90 parts of copper and 10 parts of tin.
6. *Thara*:	It contains 8 parts of copper and 5 parts of black lead.

Uses of Copper:

The following disease conditions may be treated with copper.

Haematemesis *(raththa pitham)*, delirium *(sanni)*, liver disease, kapha disease, loss of appetite *(akini mandham)*, leucorrhoea *(ven megam)*, phlegmatic disease due to pitha*(pitha vazhalai)*, menorrhagia, ulcer, syphilis, asthma due to the derangement of three humours *(thirithoda suvasam)*, worm infections, spermatorrhoea and eye diseases. It improves spermatogenisis as stated in the following Tamil verse.

"தாம்பிரத்தாற் சோரி பித்தஞ் சந்நியகு வைகபம்
வீம்பார்பி லீகமந்தம் வெண்மேகந் - தேம்பழலை
சூதகநோய் புண்கிரந்தி தோடசுவா சங்கிருமி
தாதுநட்டங் கண்ணோய்போம் சாற்று"

(Pathartha guna chinthamani)

Copper cures gastric ulcer (*gunmum*) rapidly. Hence it is called as '**Ulcer's Death God**' *(Gunma kaalan)* as stated in the following Tamil verse.

"உற்பவமே தினியருரா மனித வர்க்கம்
ஓகோகோ செம்பினன்மை யுரைக்கொணாதே
கற்பனைக ளல்லவடா மகனே குன்ம
காலனென்றால் வாதசந்தி கலங்கும் பாரே."

(Bogar Kurunthirattu 300)

Before using as a medicinal substance, copper should be purified and detoxified properly. Otherwise, it may be quite toxic and may even cause death.

THERAN METHOD

(*Theran Yamagam*)

Purification and detoxification of Copper:

1. Copper powder	35 gm
2. Leaves juice of Red Cotton tree (Gossypium arboreum)	210 gm per day
3. Goat's urine	210 gm per day
4. Red cow's urine	210 gm per day
5. Garden radish juice (Raphanus sativus)	210 gm per day

Copper powder is soaked for 6 hours in the leaves juice of red cotton tree (Gossypium arboreum) and insolated for six days, adding fresh juice every day. On seventh and eighth day, it is insolated without adding the juice until the moisture evaporates. This procedure is repeated with goat's urine and red coloured cow. Finally it is soaked in the juice of garden radish(Raphanus sativus) and insolated for ten days by adding fresh juice every day. It is then isolated for two more days without adding juice and then placed in fresh frying pan and roasted in husk-flame until moisture evaportates. Then it is washed in clean water, moisture removed by placing in a cloth and insolated for obtaining purified copper.

Note: Although it is stated that, it should be allowed to dry between each juice, if the watery contents does not absorbed and dried, it should be placed in the daylight and then processed in the next juice in the sunlight which is called "***Sooriya pudam***" by which the drug gets better efficacy through the seven colours present in the sunlight.

Other method:

The copper is made into thin sheets like the wings of the white ant. It is heated with red hot soaked in the following juices individually for seven times and taken out.

1. Horse gram decoction (Dolichus biflorus)
2. Tamarind leaves juice (Tamarindus indicus)
3. Juice of Indian aloes (Aloe vera)

4. Sour butter milk
5. Juice of sessile plant (Alternanthera sessilis)

CEMPU (COPPER) PARPAM

Method of preparation and properties:

35 gms of purified and detoxified copper powder is triturated with the required juices as shown in the table.(next page).

Then cakes are made, dried and put into puda process. Only freshly prepared juice should be used every day. Even after becoming *parpam*, it is placed in dew and then taken and used. In this process, only 4 parts out of 6 turn into *parpam*. When the oil of Alexandrian laurel (Calophyllum inophyllum - *punnai* seeds - 70 gms) is added daily for three days and also malabar glory lily (Gloriosa superba -*thonri khizhangu)* the whole portion becomes parpam as stressed in the following Tamil verses:

"பற்பமென்றாற் றாம்பிரமே பற்ப மாகும்;
　　பாசுபத மஃதேயாம் பார்த்த பேர்க்கு
விற்பனபண் டிதத்தாலே கால கேய
　　வினைக்கூட்ட வெம்படையை வீக்கு மப்பா! "

(Bogar Kurunthirattu -300)

செம்பி னடலை சிவாத்திர மாகுமே;
　　நம்பியெய் வார்கள் நமனைவெல் வார்; பிணி
வெம்பி யகல விடாரியை நேர்பாயும்
　　வம்பியல் லார்பலன் வாய்க்கவல் லார்களே."

(Thirumoolar Thirumanthiram Kanma Kaandam - 1000)

கேளப்பா வுண்மை யறி வாக ரப்பேர்
　　கேவலா நமையாடிக் கிருதா நீவிர்
மூளப்பா வனலான பரம வாளி
　　முதன்மையா ணவப்பிணியாம் பகையைச் சாடும்
மீளப்பா வனிலத்தை யடக்கும் நாகம்
　　வேறல்ல செம்பினது பற்ப மப்பா
நாளப்பா லஃகுவதோர் பொழுது மில்லை
　　நாரணாத் திரமிதற்கு நாணிப் போமே." *(Bogar- 300)*

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of days dung cakes required for puda (6)
1.Leaf juice of betel (Piper betle)	122	16	*6 # 8	1	66
2. Leaf Juice of Fire brand teak (Premnacoriymbosa)	122	12	*4 # 7	1	44
3. Leaf Juice of common milk hedge (Euphor bia ligularia)	122	8	*2 # 5	1	33
4. Leaf Juice of soma tree (Prosopis spicigera)	122	4	*1 # 2	1	22

* No. of cakes drying days in shadow. # No.of cakes drying days in sunlight.

Other methods of preparation of *Cembu parpam:*

Purified copper powder	35 gm
Common mountain ebony juice (Bauhinia racemosa - *aathi charu*)	70 gm
Worm killer (Aristolochia bracteolata - *Aadu theendapaalai)*	70 gm
Neem (Azadirachta indica)	70 gm
Chebulic myroobalan (Terminalia chebula - *kadukkai*)	70 gm
Sesbania sesban (*sembai*)	70 gm

1. Copper powder is triturated with the juice of common mountain ebony (Bauhinia racemosa) for two days. Cakes are made and insolated for four days and then subjected to *puda* with goat's dung. The same procedure is repeated with the juices of worm killer(Aristolochia bracteota), neem (Azadirachta indica), chebulic myrobalan (Terminalia chebula) and Sesbania sesban,Then cakes are made, insolated and put to *puda* process.

2. Copper powder is triturated with radish juice and subjected to *puda* for five times, within 15 days for obtaining the *parpam.*

Dosage of Ccembu Parpam:

The dose is equivalent to ¼ size in each of mustard, millet, panicum and horse gram.

The ideal duration of treatment is 7 days.

14 days is mediocre;

21 days is not advisable and 28 days should be avoided as stressed in the following Tamil verse :

"சுத்த வவுடதஞ் சொன்ன பிரயோகம்
வித்தள வாக நால் வேற்றுமை யாயினும்
உத்தம மாதி யுரைக்கு மிரண்டிரண்
டத்தனை யேதொகை யாகும் பதினாறே"

(Thirumoolar)

Adjuvants	Diseases which are cured.
1. Water	Kapha diseases
2. Hot water	Vatha diseases
3. Ghee	Pitha diseases
4. Cow's milk	Enlargement of liver *(vallai)*
5. Butter	Head diseases
6. Sugar	Pain in the upper limbs
7. Basil juice (Ocimum sanctum)	Benign tumours and abscess of the breast.
8. Betel leaves juice (piper betle)	Constraint uncontrolled fever, fever due to venereal disease, fever with rigor,(*pitha piramai kaaichal)*.
9. Sugarcane juice	Tremor associated with vatha.
10. Juice of Indian Aloes (Aloe vera)	*Pitha vatha saithiya vigado paththiravam*, which produces pain in the joints and sweating of the body, *vatha kiranthi vali*, *pitha megavayu*, *kaphavathanalam*.
11. Honey	Amnesia induced by *unmaththa cheththmum*, vayu, *pysaasa suram*, *meganalam*, syncope due to delirium *(moorchai sanni)*
12. Juice of anyone of the following flowers Blue Indianwater lily (Nymphae stellata *-Neelorpalam)* Lotus(Nelumbo) nucifera White Indian water lily Nymphaea nouchali*(alli)* Nymphaea alba*(neithal)* Aquatic roof (*-Kotti)*	Epilepsy, Plague, *Aathangaana vali*, *Paaridathithirivali* Plegue *(peruvaari kaichal)*, *Thonthadhi vali*, *Bhootha vethala sanni vali*, *piranthiakrithi vali*, *vathapival viyathi*, *mahamoothandaanu saram*, *menokkanalanu saram*, hiccough due to pitha fever, *vatha narayanaartha suvasam*.

(Aponogeton monos tachyon)	*muyal ganapporumal, paanduvaiyaanala vikkal, eelai Irumalaanala pirmai, neeruru thinaral,mahasuve thaanalam,paruvaaladhi uppusam, Payithiyakaya paruvaralo pathiravam, pithasethma vanmeegam.*

Dietary restrictions:

The following dietary items may be consumed along with the *parpam.*

Ghee, butter milk, *appam, adai,* sugar, *poori,aval*, unhusked fried rice (*pori),* greengram and banana.

The *parpam* taken in proper doses with proper precautions gives strength and youthfulness to the body. It is also a powerful digestant. It also gives strength to the hair roots as stated in the following Tamil verse:

''முசிவ கற்றுமதை நெளிவு பத்யவழி
முறைகொ ளப்பிணிகள் வதிதல்போம்
முளரி யொத்தகடு பசிமி குக்கவெரி
முடுகுமற்றவது தணியவே
முகிலெ னக்கிருத மிழுது மப்பமடை
முதிய சர்க்கரைக ளபூபமாம்
முனைய வற்பொரிய யறுக னித்திரள்கள்
முதலு ணப்பரவு முடலெலாம்

இசைய ரத்தமிகு தசைய முத்தமிகு
மெழில்வி ருத்தியுறு மொளிர்வுசேர்
இரணி யத்தைநிகர் வணமி னப்பரவு
மிசைவ நித்யமக லதிகமாம்
இனியு ரைப்பதிலை யதன்ம கத்வமகி
யிடைம ருத்துவக ளறியவே
இரகசி யப்பொருளை வழுவர் றச்சொலுவ
எவரு மச்சமிலை சரதமே.''

The following dietary items should be avoided during the treatment with the *cembu parpam.*

Lemon (Citrus aurantifolia)
Mango (Mangifera indica)
Pomagranate (Punica granatum)
Orange(Citrus reticulata-*kichili fruit)*
Bitter orange(Aurantium bigardia-*naaratham fruit)*
Jambul (Syzygium cumini -*naval fruit)*
Common cucumber (Cucumis sativus- *vellari fruit)*
Indian gooseberry- (Phyllanthus emblica- *nelli fruit)*
Palmyra toddy - *Panankall*
Chinese goose berry (Averrhoa carambola)
Thamaraththangai
Kaisorikkeerai
Ridged gourd(Luffa acutangula-*peerkangaai)*
Jujuba (Zizyphus jujuba-*Ilanthai)*
Large bengal currants (Capparis carandas- *perungalaa)*
Wood apple (Limonia acidissima- *vilvam fruit)*
Bitter gourd (Momordica charantia -*paagal)*
Country fig (Ficus racemosa - *aththi fruit)*
Lablab been seed (Dolichos lablab) - *mochai* soaked rice water, curd and butter milk.

Special properties of *Cembu parpam.*

This parpam eradicates serious diseases such as leprosy and tuberculosis.

When taken along with flower juice of Iron wood tree(Memecylon edule) abdominal diseases due to vatha *(vatha gunmum)* are cured according to the following Tamil verse :

"....ரவிசேயைத் தனஞ்செயன் மாயன் போல்
கொல்வே னெனவு ரைத்தான்...."

"வயித்திய னான கண்ண னினிமேல்
வடிக்கணை தொடுத்துயிர் குடித்திடிங் கிவனை
தாமச மினிவேண் டாபுரிந் திடுநீ
தனஞ்செய வெனுந்தொறு முனிந்தன னிகலித்

தாம்பிர முதலாம் பெயர்பெறு கின்ற
தனிக்கணை யினத்தொடு நினைத்ததை யெடுத்
தனுபான மந்திர மெனும்பிர யோக
வாக்கினை யாக்கியே போக்கின னதுபோய்
ஆதவன் மகன்கழுத் தைக்கறுக் கென்ன
அறுத்துயிர் பறித்தது தெறித்தது தலையே."

(Theran Maruthu Bharatham)

Prepare a mixture with equal amount of the juices of rough bryoni (Mukia maderaspatana) and basil (Ocimum sanctum). If the parpam is taken along with this mixture it prevents death and cures many other diseases associated with kapham as stressed in the following Tamil verse:

"முசுமு சுக்கையிலை துளவ பத்ரிரசம்
மொழியி வைகலவை செய்ததில்
முளையெ ளிற்சிறிது புளியின் வித்தளவில்
முழுக வைத்திதையு ணயிலவே
முதன்மி ருத்தையடு மதைய டக்கபமு
முரிய மற்றதுவு முரியுமே
முதல றக்கிளைக ளறலெ னப்பிணிகண்
முழுது மற்றுவிடு மிதுமெயே."

Dose : Size of a tamarind seed.

CEMBU (COPPER) *CHENDOORAM*

Purified copper powder (35 gm) is taken within 32 days and triturated separately with the juices of red lotus leaves (Nelumbium speciosum), Indian globe thistle (Sphaeranthus indicus), champak (Michelia champaca) and neem (azadirachta indica), cakes are made and subjected to *pudam* to get the reddishgreen coloured *chendooram*.

Uses of *Cembu chendooram:*

Adjuvants	Diseases
1. Breast milk	Heart attack *(maradaippu vayu)*
2. Essence of white mustard Brassica alba)	Intermittent fever *(murai kaichchal)*
3. Sugar candy	Sense of heat

4. Hot water	Tuberculosis
5. Juice of Hygrophilla auriculata	Fever associated with morbid thirst *(thaapa suram)*
6. Juice of wild asparagus (Asparagus racemosus)	Throbbing headache
7. Juice of jack fruit (Artocarpus heterophyllus)	Agony
8. Water	Body pain
9. Juice of garlic (Allium sativum)	Tiredness fatigue-(general debility)
10. Ghee	Vomiting *(sathithi noi)*
11. Juice of Basil (Ocimum sanctum)	Leprosy *(senkutta noi)*
12. Jaggery	Cough
13. Juice of broom creeper (Cocculus hirsutus)	Leucorrhoea *(Vellai megam)*
14. Bael juice (Aeglemarmelos)	Madness *(unmaththam)*
15. Honey	Anaemia (*Paandu rogam)*

Other simplified methods of perparation of *Cempu chendooram:*

1. Purified powder of copper is triturated with the juice of sessile plant (Alternanthera sessilis- *Ponnankanni charu)* and subjected to ten *pudam* to get the *chendooram.*

2. Copper powder is trirurated with the whole plant juice of turpeth root (Operculina turpethum- *sivathai samoola charu*) and the whole plant juice of wind killer (Clerodendrum phlomidis- *thazhuthazhai charu*). Cakes are made and kept in earthen plate and coverd by another mud sealed cloth and subjected to *puda* process to get the *chendooram.*

3. Purified and detoxified copper powder is triturated with the essence of mustard leaf juice (Brassica Juncea) and subjected to *puda* process. This is repeated for 5 times. Within 15 days we can get copper *chendooram.*

The reason for stating all the 96 eye diseases are curable by copper is that the eye is related to the fire element, so also copper is

related to fire element.Therefore it cures all the diseases related to eyes and hence, the eye needles,collyrium rods and other related surgical instruments are made of copper, which are detailed in the following Tamil stanzas:

Eye needles:

"குத்தங் காசம் முத்துப்போல்
கூடிப் பிரியுங் குன்றாமல்
சற்றுங் களிம்பொன் றில்லாமல்
தாமிரச் சிலாகை முப்பட்டம்
பேற்றும் ஆறு விரல்நீளம்
முன்னும் பின்னும் விரல்நீக்கி
மாற்று நிலையை வைத்தணைத்து
வைத்துக் கட்டிக் குறைதீரே."

Collyrium rods:

"அஞ்சன மெழுதுங் கோலின்
அளவினை அறியக் கேளாய்
சஞ்சல மில்லாச் செம்பு
வெள்ளியுந் தங்கத் தாலும்
மிஞ்சுநல் விரலா லஞ்சு
விரற்கிடை மீறிடாமல்
கஞ்சமாம் விழியிலாடும்...."

Mortar for eye paste:

" சோற்றுப் பற்றுந் திருநீறுந்
தோகை யனையாள் முலைப்பாலும்
போற்றுஞ் செப்பு கல்வத்திற்
பொருந்தும் குழவி யாலரைத்துக்
காற்றுப் படாது காத்திருந்து
கண்ணைச் சூழ வரைந்தக்கால்
தோற்றுப்போமே கண்ணோவுஞ்
சொன்னார் முனிவர் சொன்னாரே."

Many drugs such as *Thambirathi, Maha thambirathi, Pachai thambirathi, Kanaga thambirathi* and *Kunkuma thambirathi* which are used in eye diseses contain copper.

The individual copper is added in the *kalangu* medicine *piralayakaala Rudhiran* and *cempu parpam* is added to the *Bairavangal* which is specially used for delirium.

In surgical treatment of cataract copper needles are used.

Toxic symptoms of copper and treatment.

Copper poison may occur if the dose exceeds or if there is defect in the manufacturing process or if dietary restriction is not followed strictly.

Hiccup, giddiness, excessive salivation, sensation of fearfulness, cough, heart burn, pharyngitis and laryngitis as stated in the following Tamil verse :

''பிசகு பற்பமுறை யெனி லத்திநெறி
பிறழு மச்சமிகு மிருமலே
பெருகு விக்கலொடு தலைதி ருப்பிவரும்
பிரமைமி குத்துவரு மறல்கள் வாய்
பெருகி யக்குலரு முரமெ ரிச்சலுறும்
பிளிறல் மெத்தவரு மிவைகள் தீர்
பெலம ருத்துமுறை யுணர்ம ருத்துவர்கள்
பெலமு ரைப்பரிய தவர்செய்வார்"

The powder of dried ginger mixed with lemon juice is the antidote copper poison for as evidenced by the following Tamil verse:

இவ்வகை புரிந்த தாம்பிர 'பற்பத்
தியற்கையை யென்சொல்வேன் பிசகின்
இடையறாக் களிம்பாற் கொல்லுவ ததுவே
எலுமிச்சை சுக்கினா லதுபோம்''

Copper containing tablets give best results in eye diseases, if used after twelve years of preparation.

7. *THANDAVAALAM* (CAST IRON)

Purification:

Cast iron powder is soaked in cow's urine in an iron pot and heated in an oven. It is kindled with a spoon till it is dried and the procedure is repeated for three times to get the purified form of cast iron.

THANDAVAALA CHENDOORAM

Ingredients:

Cast iron powder	280 gm.
Myrobalan gunduc	280 gm.
(Datura metel (*karu oomathai*)	q.s.
Indian aloes (Aloe vera- *Kattrazhai*)	q.s.

Cast iron powder and Myrobalan gunduc are triturated in a stone mortar for seven days. Cakes are made and put to puda process eighteen fingers breadth above the ground. Juice of black thorn apple (Datura metel) is added and triturated for twelve hours and put to puda as above. Then Indian aloes juice (Aloe vera) is added and triturated for 48 hours.

Cakes are made and put to *puda* 24 fingers breadth above the ground. The result of the process is dull in colour repeat the process with two more *pudas*.

Properties of *Thandavaala Chendooram*.

The *chendooram* may be given during the early stages of diarrhoea, dysentery, indigestion, haemorrhoids, gastric ulcer and anaemia. It is also given during convalescence period for regaining body strength. The *chendooram* should not be given when these diseases are in active stage.

Adjuvants and diseases curable.

Dried ginger (Zingiber officinale)	5.1 gm
Coriander seeds (Coriandrum sativum)	5.1 "

These two are triturated with water and the extract is filtered. Filterate is mixed with honey (2.1 k.g.).These two mixture is given as an adjuvant to *Thandavaala chendooram* in the morning.

Dried ginger (Zingiber officinale)	8.4 gm.
Coriander seeds (Coriandrum sativum)	12.6 gm.
Nut grass (Cyperus rotundus-*korai kizhangu*)	8.4 gm.
Water	560 ml.

A decoction is made from the above drugs adding 560 ml of water and reducing to $1/8^{th}$ quantity of water. This is given as an adjuvant in the evening.

When given for 10 days as mentioned above, fever due to indigestion is cured.

Dietary restrictions:

Tamarind (Tamarindus indicus), gingelly oil, ghee,curd and milk are to be avoided.

If the *chendooram* (1.05 gm) and honey is given along with clove pills, it cures diarrhoea *(athisaram)*, dysentery *(kirahani)* besides healing haemorrhoids (*moolam*- piles).

Preparation of clove pill:

1. Clove (Syzygium aromaticum)	9.3 gm.
2. Nutmeg (Myristica fragrans)	9.3 gm.
3. Dried ginger (Zingiber officinale)	9.3 gm.
4. Ceylon iron wood (Mesua nagassarium -*Ciru nagappoo)*	9.3 gm.
5. Cardamom (Elettaria cardamomum)	9.3 gm.
6. Honey	70 gm.

The raw drugs are fried individually in almond oil or cow's ghee and powdered individually and then mixed together. The above mixture along with honey are placed in an iron vessel, heated and kindled well. When the mixture becomes semi- solid, the pot is taken out from the hearth and clove pills are made to the weight of 10.5 gm each.

Administration of the *chendooram* with ginger juice (6.3gm) and palm sugar candy (6.3gm) cures indigestion (dyspepsia - *akkinimantham)*

When the *chendooram* is taken along with *Siththadhi leghium*, it cures anaemia *(paandu)*.

8. *THARA* (TIN)

Thara is also known as *madhukam*. It is a combination of two metals of black lead and copper in the ratio of 5 : 8 .

Vettai thara brittleness tin is used in the treatment of throbbing pain *(soolai)*,venereal disease and derangement of kapha vatha.

"சூலையொடு மேகமிவை தோன்றாம லோட்டிவிடும்
மேலைவரு காலை விலக்குங்காண் - ஆல
அராமே வியவல்குல் ஆரணங்கே! வெட்டைத்
தராவெனுமு லோகமது தான்."

(Agathiyar Gunavakatam)

THARA PARPAM

Method of Preparation:

The *Thara* is made into thin sheets and covered with poultice of *thumbe* leaves (Leucas aspera). It is placed in a small mud pot sealed with mud pasted cloth and put to *gaja pudam*. It is taken out after three days to get the *parpam*.

The *parpam* is useful in the treatment of ascites *(mahodharam)*, splenomagaly *(pleegam)*, *kavusai*, *aguvai* and gastric ulcer *(gunmum)*.

Other method:

The thin sheets of thara are covered by the poultice of *kavizh thumbe* leaves(Leucas aspera) and then subjected to *Gaja pudam* to obtain the *parpam*. This *parpam* will be useful in the treatment of gastric ulcer,dropsy *(Neerkkovai)*, insect bite (Beetle bite), tuberculosis, throbbing pain *(soolai)* cough, headache, non virulent poison *(sil vidangal)* and leprosy.

9. *NAAGAM- THUTHA NAAGAM*

(ZINCUM - ZINC)

As the metal zinc gives hissing noise like snake while melting, it is called in the name of cobra- *naagam*.It has the following synonyms:

Seeral, porumal, pongal,iraichal,aimbugai,sorum, vasuki, vennagam, thaambirathin vedhai and *vathathirtku uyir.*

Zinc is available in nature mixed with other substances. After separation, it gains shiny, whitish blue in colour in the form of solid. Zinc can be made as a rod or as thin sheets. It dissolves in acid . When it melts with copper, it converts into brass. It is imported from China and Burma.

Zinc has got astringent taste, coagulant and tonic actions. It controls haemorrhage.

Antagonistic substances to zinc:

Egg *(andam)*, opium (papaver somniferum), ferrous sulphate *(annabedhi)*, rock salt *(kalluppu)*, sea shell, plumbi oxidum *(singi)*, gold, tin *(thara)*, crab shell, pepper (piper nigrum), glass gale *(valayaluppu)*, mercuric chloride *(veeram)*, potassium nitrate *(vediuppu)*, borax *(vengaaram)*, silver and arsenic tri-oxide are antogonists to zinc.

Agonist substance to zinc:

Mica *(appiragam)*, iron, sulphur (gandhi), magnet *(kaantham)*, lead *(kaareeyam)*, arsenic pentasulphide (gowri), ammonium chloride *(navachcharam)*,bitumen *(sila saththu)*, mercury *(sootham)*, copper and detoxified copper oxide (*mayura cembu)* are agonist to zinc.

Zinc is useful in the treatment of following diseases:

1. Venereal disease *(megam)*
2. Diarrhoea
3. Chronic ulcers
4. Mental disorders
5. Leucorrhoea *(vellai)*
6. Sense of heat

"மேகங் கிளர்பேதி வெட்டையழலைத் தணிக்கும்
வேகங் கிராணி விலக்குங்காண் - போகாப்
பரியமுளைப் புண்ணைப் பயித்தியத்தைப் போக்கும்
அரிதுத்த நாக மது."

The zinc generally controls various diseases gradually and gives strength to the body as explained in the following Tamil verse.

"சொல்லி முடியாது துத்தநா கம்பொடியாய்
மெல்லத் துரத்தும் வியாதிகளை - நல்ல
உரனுடைமை யுண்டாக்கும் உண்டவரை யென்று
கிருமிமனை மண்மகிமை கேள்."

Purification of zinc:

Zinc powder	35.00 gm
Rosary nut (Elaeocarpus sphaericus)	157.50 gm
Alexandrian laurel pollen honey (Calophyllum inophyllum)	39.40 gm.

The paste obtained by rubbing the rosary nut (Eloeocarpus sphaericus) on rough surface is taken. Honey obtained from flower of Alexandrian laurel (Calophyllum inophyllum) with its pollen grains, zinc powder , rosary nut paste and honey are mixed together and insolated for one month to get purified and detoxified zinc. The *parpam* and chendooram made from this purified form of zinc powder gives long life.

Other methods of purification

1. The ghee of south Indian mahua (Madhuca longifolia)- *Iluppai* ghee is taken in a mud pot. Two pieces of Ammonium chloride are placed in the pot in such a way that half of the portion of the pieces is immersed in the ghee on opposite direction. The Zinc melted in an iron pot is poured twenty one times to the ghee of south Indian mahua and washed.

2. Child's urine, lime juice and limestone are mixed together. This mixture is placed in a vessel. Zinc is melted along with goat's ghee and poured to the above liquid mixture for 10 times, to get purified form. Four pieces of Ammonium chloride(1½" breadth 3.75

cm.lenght) may be placed on corners of the vessel to avoid the hissing noise of the metal.

NAAGA PARPAM

Purified form of zinc (35 gm) is powdered and triturated with juices as shown in the table (next page).

Then cakes are made and put to puda process.

The following Tamil verses explain this process in detail:

"கூறவே நாகபற்பஞ் சொல்லக் கேளாய்
குலவியதோர் நாகமொரு கட்டி வாங்கி
ஆறவே அயக்கரண்டிக் குள்ளே யிட்டஃ
தடுப்பேற்றிக் கரிசாலைச்சாறு நாழி
வீறுடனே நாற்சாமம் சுருக்குப்போடு
விதமுடனே நாகமது நீறிப்போகும்
காறுடனே கரிசாலைச் சாறி லாக்கால்
கனாஃருள் ளிச்சாற்றால் நீறுந்தானே."

"நீறுமடா இல்லையெனில் சிறியா நங்கை
நிகரின்றிக் குகைதன்னில் கீழ்மே லுப்பை
மாறுபடா நாகத்தை நடுவே வைத்து
வாய்மூடி யுலையினிலிட் டூது வூது
ஊருடனே பொருமியது நீறிப்போகும்
உற்பனமா யனுபான மறிந்தங் கூட்ட
காறுமே யிளைப்பிரும லீளை காசம்
காணாது வைத்தியரே விரைந்து பாரே." *(Bogar - 7000)*

The *parpam* so prepared will protect the body from the complication of the diseases , purify and strengthens the body.

The preferred dose of the *parpam* is $1/6^{th}$ size of a bean seed. $2/6^{th}$ of the size is mediocre; $3/6^{th}$ not advisable; $4/6^{th}$ and above sizes are to be avoided. Though the preparation is good, improper dosage may be harmful. If the ingredients are not used in proper doses, the *parpam* becomes toxic and the body will suffer.

It is also considered that during treatment of this *parpam*, one should live in fertile agricultural land of *marutham*. It is better to avoid consume the *parpam* between mid june to mid july, mid December to mid January and mid March to mid April.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of days dung cakes required for puda (6)
1. Juice of *pasunkay* (paddy Oriza sativa)	175	5	4	1	36
2. Leaves juice of Goose berry (Phylla nthus emblica)	175	5	4	1	36
3. Sugarcane juice (Saccharum officinarum)	175	5	4	1	36
4. Bark juice of Tiny Banyan (Ficusbengalensis)	175	5	4	1	36
5. Juice of whole plant of white lily (Nymphaea alba)	175	5	4	1	30
6. Juice of whole plant of Malabar glory lily (Gloriosa superba)	175	5	4	1	30
7. Tuber juice of wild asparagus (Asparagus racemosus)	175	5	4	1	30

Adjuvants	Curable diseases
1. Leaf juice of prostrata shrub (Mullugo lotoides-*seruppadai*)	Vatha diseases
2. Leaf juice of soma tree (prosopis spicigera- *vanni)*	Dyspepsia
3. Leaf juice of *thanneerkaanan* (Commelina benghalensis)	Disease due to over weight
4. Whole plant juice of Indian gooseberry (Phyllanthus emblica)	Chronic hyper pyrexia associated with rigor.
5. Sugar	Tuberculosis
6. Sugarcane juice	Leucorrhoea
7. Butter milk	Gastric ulcer associated with vomiting (*saththi gunmum)*
8. Milk	Chronic fever due to dis eases of bony origin
9. Ghee	Delirium *(sanni rogam)*
10. White variety of	Vitiligo *(ven kuttam)*
(Cleome viscosa - *vellai velai chaaru)*	Anaemia, dropsy, jaundice *(Paandu)*
11. Water	Skin lesion in STD and leprosy *(karun kuttam & mega kutam)*
12. Butter	Epilepsy *(vithirppu vayu)*
13. Rose water	Delirium due to excess kapha *(Sethuma sannai pini)*
14. Vinegar	Loss of appetite *(arosagum)*
15. Leaf juice of broom creeper (Cocculus hirsutus–*kattukodiyilai)*	Delirium due to excessive pitha *(pitha sanni pini)*
16. Curd	Tuberculosis

17. Mother's milk	Delirium due to collapse, swoon, heat and parchedness of the tongue
18. Human urine	Eye diseases *(nethira vayu)* cataract *(pitha kasam)* hemiplegia *(parisa vayu)* Menorrhagia *(perum paadu)* pyrexia
19. Saliva	Anasarca,oliguria *(neer kattu)* Gonorrhoea *(vettai)*, Delirium *(paarisa sanni)*, Chest diseases, Tumour *(vippurithi)*

Other uses :

Adjuvant	Curable disease
1. *Naaga parpam* with the Leaves juice of Indian pennywort *(Vallarai*) - Centella asiatica)	Delirium with syncope, glaucoma,ophthal modonesis, excess sweating, foam at mouth,aphonia,burning sensation in the joints,artery and nerves, disease like agony or pangs of death.
2. Leaves juice of Fire- flame bush (*Thiruvaathi* - woodfordia fruticosa)	Syncope (fainting), heart attack.
3. Leaves juice of thumbai - *(Thumbai*- Leucas aspera)	Odontoprisis, parchedness of the tongue, glossoplegia, kapha associated with syncope.

Ulcers due to venereal diseases are of six types. They are.......

1. Kadina vatha viranam	severe vatha ulcers.
2. Lalitha vatha viranam	mild vatha ulcers.

3. *Kadina pitha viranam*	severe pitha ulcers.
4. *Lalitha pitha viranam*	mild pitha ulcers.
5. *Kadina kapha viranam*	severe kapha ulcers.
6. *Lalitha kapha viranam*	mild kapha ulcers.

The symptoms of the above six types of diseases and their treatment are given below :

1. If the *Naaga parpam* is taken with one part of cold water and half part of neem oil,the following severe vatha ulcers will be cured. Syncope, dyspepsia, hiccough,abdominal pain, indigestion, loss of appetite, regurgitation, constant pyrexia and tumour in the lumbar region with pain and itching.

External application: The Madhuca longifolia oil cake (*Iluppai pinnakku)* and required quantity of neem oil are ground with the above prepared medicine for washing the affected part with warm water.

2. If it is taken with palm toddy and coconut oil, the following vatha ulcers will be cured.

Swelling over the shoulder pit right shoulder,hands and waist, boil in ear, taenia with burning sensation, hyper salivation, gastritis, nausea and hiccough.

External application: For washing the affected part, warm water and green gram powder may be used.

3. If it is taken with arrack and castor oil, the following severe pitha ulcers are cured.

Strangulated intestine, pectoralgia, sour belching, hiccough, vomiting, indigestion, diarrhoea, gastritis, pyrexia, taenia in upper limbs, ulcer with itching and burning sensation.

External application: Leaves of black siris (*Seekkiran*-Albizia odoratissima) may be used for washing the affected parts with warm water.

4. If it is taken with the oil of Madhuca longifolia (*Iluppai nei)* and hot water, the following diseases will be cured :

Intermittent fever, nausea, loss of appetite, abdominal pain, diarrhoea,tumour below the knee joint, septic ulcers and severe blood discharge with itching.

External application: Decoction of tamarind leaves (Tamarindus indica) may be used for washing the affected part.

5. If it is taken with physic nut (*Kaattamanakku*-Jatropha curcas) oil and flower juice of cashew (Anacardium occidentale). stomatitis ,bleeding gum, halitosis, abdominal swelling, loss of appetite, tumour in the lower limb and ulcer associated with pus and bleeding discharge are cured.

External application: Soapnut acacia -(*Sikaikkai*-Acacia sinuata) may be used for washing the affected parts.

6. If it is taken with the oil of the mexican poppy- (kudiyotti - *brammathandi* - Argemone mexicana) and honey, the following mild effect of kapha ulcer diseases will be cured :

Polyuria, polydipsia,stomatitis, swelling in upper limbs, fissures and ulcer with discharging fluids.

External application: Horse gram powder may be used for washing the affected parts.

The zinc powder should be used for two months to obtain good result and curing the above diseases. It is also used for fissures of the tongue.

Other methods of preparation of Naagaparpam:

1. If we apply 520 grams of opium (papaver somniferum) on the face of molten zinc, fire sparks will appear. It is then triturated and filtered to get the *parpam*.

The trituration is also done with the juices of country mallow (Abutilon indicum)- *thuthi* and Australians asthma weed (Euphorbia pilurifera)-*siru amman pachcharici* and put to puda process. The *parpam* is formed which is useful in the treatment of dysentery.

2. When castor leave juice (Ricinus communis) (5 drops) is applied drop by drop on the purified zinc (17.5gm) a sound appears . When 5 more drops are added the sound disappears. The zinc is blown with a bellow and 5 to 6 drops of castor leave juice is added and kindled with the root of the same plant.The *parpam* so formed appears like the jasmine flower. The *parpam* prepared by this method is useful in the treatment of gastric ulcer (*gunmum*) and haemorrhoids . It improves spermatogenesis.

Naaga parpam is also used for the treatment of kapha, gonorrhoea *(vettai)*, leucorrhoea (*Vellai*) abdominal tumours and hepatomegaly in children in northern part of Andhra Pradesh as follows:

1. *Naaga parpam*	65mg.
2. *Anandha pairavam*	65mg.
3. Alpinia galanga (*Siththarathai thailam)*	4 ml.
4. *Inji surasa* (Zingiber officinalis)	2 "
5. Honey	2 "

Naaga parpam is mixed with *Anandha bairavam,* lesser galanga oil (Alpinia galanga)- *siththarathai* thailam, Inji surasa (Zingiber officinalis) and honey. This mixture is given in the morning and in the evening, the *parpam* should be given only with honey. After one week of treatment, the thailam and *surasam* are given in alternate days.

NAAGA (ZINC) *CHENDOORAM*

Ingredients:

1. Zinc powder	35gm.
Juices of the following plant buds:	
2. Malabar glory lily (Gloriosa superba *–kaanthal)*	r.q
3. Water lily (Nymphaea nouchali - *alli*)	
4. Bitter gourd (Momordica charantia - *paagal*)	
5. Mistletoeberry thorn (Azima tertracantha *-sangan)*	
6. Sesban (Sesbania grandiflora - *agathi)*	
7. Jasmine (Jasminum grandiflorum-*kili malligai)*	

Purified powder of zinc is triturated with the above plant buds juices individually. Cakes are made and subjected to *pudam* to get the *chendooram*.

Adjuvants	Curable disease
1. Juice of jambul (Syzygium cumini *-naaval)*	Dropsy *(neer kovai)*
2. Flower juice of white water lily (Nymphaea pubescens *- neithal poo*)	Respiratory infections

3. Juice of Pomegranates fruit (Punica granatum - *maadhulai)*	Body pain
4. Water	Cramp, sprain etc *(Pidippu pini)*
5. Hot water	Kapha associated with delirium *(chetma sanni)*
6. Sugar	Burning sensation of the body *(Kaaragam)*
7. Lotus flower juice	Anasarca
8. Curd	Fever associated with bone diseases.
9. Juice of Indian Luburnam (Cassia fistula *-konrai*)	Diarrhoea *(Athisaram)*
10. Mother's milk	Abdominal pain due to Vatha *(vatha gunmum)*
11. Butter	Psychiatric disorders
12 Toddy	Vomiting associated with excess pitha
13. Honey	Tremors due to vatha *(Nadukkuvatta disease)*

Other methods of preparation of *Naaga chendooram:*

1. Zinc is purified and detoxified in south Indian mahua oil (Madhuca longifolia) and melted in a new earthen pan. Vernonia cinerca *(seetha chenkazhu neer)* is added in the melted zinc and kindled with an iron spoon for 1 2hours. and triturated with the flower juice of Vernonia cinerea. Cakes are made,dried and sealed with mud pasted cloth and put to *gaja pudam*. It is then triturated with the juice of trailing eclipta (yellow variety) (Eclipta prostrata) and subjected to *puda* process thrice to get the yellow coloured *chendooram.*

The *chendooram* when given in cow's butter twice a day for 21 days. it is useful for haemorrhoids. ano rectal diseases,venereal diseases and billious disorders.

Dose: 488 mg.

Eatables that promote eruptions should be avoided.

Another method of prparation of *Naaga chendooram.*
Ingredients:

Group -A

1. Purified and detoxified zinc powder	140 gm.
2. Potassium nitrate *(Vedi uppu)*	They are individually
3. Bishop's weed (Trachyspermum ammi *-omam)*	powdered and made into a mixture in
4. Dried ginger (Zingiber officinale)	equal ratio.
5. Turmeric (Curcuma longa)	

Group -B

1. Rough chaff (red variety) (Achyranthes aspera- - *sennaayurivi)*
2. Lime juice (Citrus limon)

Zinc is melted in an earthen pan. Group -A powders are added gradually to the melting zinc and fried till the powders are completely added. Again the zinc powder is fried with the powder of rough chaff (red variety) powder gradually. Then the powder is triturated with lime juice and put to *puda* process. The process is repeated until it gets the colour of the pomegranates flower.

Dosage: 488 mg.

Adjuvants:

Thirikadugu chooranam together with honey, cow's milk or ghee.

Curable diseases:

Gastriculcer, ascites, tumour, haemorrhoids,venereal diseases, peripheral neuritis, urticaria, leprosy, spermatorrhoea and leucorrhoea.

In modern medicine also zinc is considered as an essential trace element and an essential component of a large number of enzymes. It has many therapeutic applications in the treatment of various external conditions of the body as a precipitating germicide and in con-

ditions such as wound healing and in taste acuity. Strong zinc sulphate solution is used as an emetic.

10. *PITHALAI* (BRASS)

Pithalai, also known as *Aarakoolam, Ceerunam, Rathi* and *Mayapuri* is a combination of two metals....copper and zinc. It contains 35% of zinc. It is astringent salty in taste. It gives strength to the body and rejuvenates. Its potency is cold.

General properties:

It improves spermatogenesis and removes abdominal pain due to vatha and pitha, as described in the following verse:

தாதுவிர்த்தி யுண்டாகுந் தாபச் சுரம்போகும்
சீதளமாம் வாதஞ் சிதையுங்காண் - பூதலத்துள்
மாட்டியதோர் பித்தகுன்மம் மாறும் மலர்த்திருவே!
நாட்டியதோர் பித்தளையினால்."

(Agathiyar Gunavakatam)

Bronze, Tin and Brass parpam:

The bronze, tin and brass are powdered individually. Gold coloured bismuth and perchloride of mercury each 1/8 th parts are added separately and triturated with *sanga diravaga* and subjected to *puda* process to obtain the *parpam* as explained in the following verse :

"வெண்கலந் தராபித் தளைமூன்றும் வெவ்வேறா
யங்கரப் பொடியது வாக்கிடு மாட்சியும்
வீரனும் மெட்டொன்று விட்டரை சங்கநீர்
பாரிற் புடங்கள் செய் பற்பம தாய்விடும்
பெருநூல் வழியனு பான மறிந்திட
வருகும் பணவெடை யிட்டிடச் சுரநோய்
மண்டை நோய் கண்ணோய் செவிநோய் வளர்பெருந்
தொண்டைநோ யண்டநோய் யும்பல் லீறுநோய்
உதட்டில் வியாதி யுறுங்கன்ன நோய்களும்
மார்புதன நோயும் வயிறு மூலநோய்
கால்நோய்படைநோய் கணத்தினில் மாறுமே"

Dose : 488mg.

The above mentioned *parpam* is useful in the following conditions:

Disease of pyrexia, head diseases, eye diseases, ear diseases, throat diseases, scrotal swelling, gingivitis, disease of lips, chin, chest, breast and abdomen, haemorrhoids and diseases of the lower limbs. .

When the *pithalai parpam* (130-260 mg) is given with milk, it acts as an astringent, expectorant and diuretic. It is also useful in the treatment of bleeding haemorrhoids, anaemia, abdominal pain and asthma.

11. PONN

(AURAM - GOLD)

Gold is found in nature in association with sand as a fine powder. It is also found available in association with stones and rocks. (Nuggets). It is also found in combination with many solids and mercury. In olden days gold has been separated from the sand by placing it in shell made of earthenware by adding water and rotating the shell. When the shell rotates, the sand will run away along with water and the gold which is heavier, will settle at the bottom; it is then subjected to puda process.

The gold so obtained is melted and made into thick sheets and then into small pieces. (1.25 cm 7.5 cm). These pieces are washed in tamarind decoction and then stirred with brick powder which was mixed with salt and iron sulphate. The resultant mixture is placed in between two broken earthenware shells and heated for many hours by keeping over a pot which has got holes. When this puda process is repeated for 41 times, the purest form of gold is obtained.

Nowadays, gold is separated and purified with the help of modern machineries. The ores of the gold (impure gold) is triturated with fine particles and allowed to move in rapidly running water in which mercury is embedded; a portion of the gold powder which is mixed with sand combines with mercury when this mixture is heated, the gold settles down and the mercury evaporates. Through condensed appliances the mercury is also regained.

Very minute particles of the gold which will not combine with the mercury or which will not settle down in the running water, is separated by addition of cyanide since cyanide readily mixes with gold. When copper sulphate is added to this, the gold which combined with cyanide, will be attracted now by copper sulphate and gets deposited over the copper sulphate.

The specific gravity of gold is 19.32 and is much heavier in weight. It dose not form rust when combined with atmospheric oxygen. It is yellow in colour with shining. The special property of gold is that unlike other solid substances, it does not react with acid. However, it easily blends with aqua regia, mercury and cyanide.

Gold is used as ornaments and also as medicine.Gold gives healthy appearance and prolongs life.It has various synonyms such as *Thiraviyam, maasai,peethagam.nithi*.........There are four kinds of gold; they are.,

1. *Aadagam*
2. *Kilichirai*
3. *Saatharoobam*
3. *Saampoonatham.*

The antagonist substances to gold are: egg shell, mica, sulphur, magnet, arsenic penta sulphide, zinc, bismuth, *ponnambar, miruthar singi*, perchloride of mercury, potassium nitrate, arsenic trioxide, lead. copper sulphate, cinnabar, mercury, *manosilai*, copper sulphate etc.

The synergetic substances to gold are other *Uparasa* and *kaarasaara*. It's taste is sweet, and it's potency is hot.

Properties of Gold:

Gold and Gold containing medicinal substances have nerve stimulant, aphrodiasiac, tonic. restorative and emmenagogue properties. They also increase the learning and memory power. Intelligence quotient, hyperhydrosis and diuresis.

If taken in excess, gold produces inflammation of stomach and intestine and may produce severe pain and giddiness. The antidotes for the poisioning are egg, white yolk, milk and carbohydrate diets.

Other properties of Gold:

Gold is used in the treatment of fatigue disease, body heat.

delirium , emaciating diseases, tuberculosis . sense of heat , deranged and incresed kapha. oligospermia, and eye diseases etc, as explained in the following Tamil verse:

> "அடற்றா வரவிடங்க ளங்கவொளி மங்கல்
> கடத்தாமுத் தோடகயங் காசம் - உடற்றாபஞ்
> சோகை* யிருந் தாதுநட்டந் திட்டிநோய்க் ளையிவை
> ஈகையிருந் தாலேகு மெண்."

Note: As explained in a western text,

"Gold in different forms has been used empirically in diverse conditions. It is much less poisonous than other heavy metals.

In combination with arsenic, it has been used in tertiary syphilis and bromides in epilepsy. It is used in neurasthenia, but any benefit that may follow its use is possibly mental.

Gold in the form of Sanocrysin was introduced by moleguard in the treatment of tuberculosis. It has no marked effect on tubercle bacilli in Vitro. How it acts is not clearly understood and it has been suggested that it penetrates the lipoid covering of the bacilli by which it kills the bacilli. It is also possible that it stimulates phagocytosis of the reticulo endothelial tissues and acts as a catalytic agent and brings about the acceleration of slow spontaneous healing process.

The injections are often followed by some reactions such as albuminuria,fever exanthemata, loss of weight and intestinal disturbances. There may also be some focal reactions.

Under its use the tubercle bacillus disappears in early cases and there is diminition of sputum, cough and pyrexia. Early cases certainly improve but the results are not so favourable in advanced cases.

In the form of Myocrisin gold is extensively used in the treatment of rheumatoid arthritis. It brings on increased range of movements. relief of pain and stiffness and checks further disability. In long standing cases where the joints are completely ankylosed, gold is of little value. Gold treatment has given favourable results in lupus. Excretion about 50 p.c of the gold is eliminated by the kidney and partly by the intestine; it is partly retained in the liver and muscle for a long time."

At present, gold compounds are employed in the treatment of rheumatoid arthritis The injection of gold are often followed by adverse reactions such as aluminuria, fever, loss of weight, erythema and intestinal disturbances. Rarely it may produce renal failure.

In Allopathic medicine, the toxicity of gold is treated by systemic corticosteroids and chelating agent dimercaprol (BAL) to increase the excretion of gold.

Purification and detoxification of gold:

The paste of red earth soil (Red -ochre) is applied over the gold sheets, placed in a small earthen vessel, heated and then washed. This procedure is repeated for six times to get purified gold.

THANGA (GOLD) *PARPAM*

Purified gold (35gm) is triturated with juices as shown in the table(next page).

Then cakes are made, dried, sealed and put to puda process to obtain the yellow coloured *thanga* (gold) *parpam*.

The parpam so prepared as above, will not only cure diseases but also protects the body from counteracting the disease.

The preferred dose of parpam is 1/6th of the bean seed (Dolichos lablab), 2/6th is mediocre, 3/6th is not advisable and 4/6 th has to be avoided. 5/6th and 6/6 th doses should not be preferred. The preferred period for taking the parpam is five months from middle January to middle of June. The preferred land for taking parpam is agricultural region-*marutham*.

Adjuvant	Curable disease
1. Juice of betel leaf (piper betle)	Idiopathic tremors of the body*(Pilaari vatham)*
2. Cold water	Tremors of hands (rigor)
3. Sugar	Hyperpyrexia*(sura kangai)*
4. Curd	*Kapha* diseases *(Sethuma diseases)*
5. Hot water	Venereal diseases *(mega noi)*

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of days dung cakes required for puda (6)
1. Leaf juice of pigeon pea red gram (Cajnus cajan)	175	15	14	1	35
2.Leaf juice of common Mountain ebony (Bauhinia racemosa)	140	12	11	1	32
3. Castor oil plant leaf juice (Ricinus communis)	105	9	8	1	25
4. Sesban leaf juice (Sesbania grandiflora)	70	2	1	1	16
5. Plantain frtuit juice (Musa paradisiaca)	35	1	1	1	9

6. Milk	*Vatha* diseases
7. Butter	*Pitha* diseases
8. Juice of Indian Aloes (Aloe vera)	Ulcer (wounds)
9. Leaf juice of Common moutain ebony (Bauhin:a racemosa)	Muscle cramp *(pidippukal)*

Thanga parpam gives extraordinary strength and golden colour shining to the body. It also improves appetite, rejuvenates the body and knowledge. During treatment with this *parpam*, fruits, ghee, sugar and carbohydrates should be taken. sexual activity should be avoided during the treatment .

Another method of preparation gold parpam:

Gold sheet is soaked in the juice of Amaranth spined - *mulli keerai* washed and powdered. Powder is triturated with red varity raw rice plant (Euphorbia pilurifera- *chithirappalaadai)* juice. Cakes are made and dried. Then they are triturated with the leaves Juice of the cadamba (Anthocephalus). Cakes are made dried and sealed with seven layers of mud pasted cloth. It is put into *pudam* with 100 cowdung cakes to obtain white coloured *parpam.*

Adjuvants:

1. *Thanga* (gold) *parpam*	10.2 gm.
2. Trichosanthes bracteata *(sowri)* leaf juice	10.4 litre
3. Adathoda vasica leaves poultice	q.s
4. Civet secretion	35 gm.

Trichosanthes bracteata leaf juice is placed in an earthen pan and insolated until it reaches the semi-solid consistency. Adathoda vasica leaves poultice is added to it in the same weight. Civet cat secretion gold parpam are then addded and triturated . Pills are made in the size of Indian goose berry fruit. These pills are soaked in gingelly oil. The pill (twice daily) is taken for six days and oleation once in eight days days should be taken with the above oil. Sexual contact should be avoid during medication.

Indications:

Vitiligo *(velutha kuttam)*,syphilitic skin lesion *(parangi kuttam)*, gonococcal (*thaditha ven kuttam)* and skin lesions (*mega kuttam)*.

THANGA (Gold) *CHENDOORAM*

Purified gold (35 gm) is triturated with leaves juice of foetid cassia

(Cassia tora), juice of chebulic myrobalan leaf (terminalia chebula), juice of scropion plant leaf (laportea crenulata) separately as for gold parpam. Cakes are made, dried and put to puda process to obtain the chendooram.

Adjuvants	Curable diseases
1. Cow's butter	Tetanus *(thanur vatha)* bow like bending of the body due to convulsion.
2. Sugar	*Kapha*
3. Hot water	Distension of abdomen *(Uppusam)*
4. Juice of small caltrops (Piper nigrum)	(Tribulus terrestris) Abdominal disease
5. Water	Pulmonary disease
6. Pepper soup (piper nigrum)	Asthma
7. Butter milk	Anorectal disease
8. Juice of Indian Aloes (Aloe vera)	Ascites *(mahodharam)*
9. Milk *(Chethma vikkal)*	Hiccough due to kapha
10. Decoction of boiled (Ranasanni fever)	Delirium due to toxemia and dried areca nut (Areca catechu)
11. Honey *(seetha sura nadukkam)*	Fever attended with cold and shivering ague

Thanga chendooram is considered best for anorectal diseases *(Moola pinıgal)*.

Other methods of preparation of *Thanga chendooram:*

1. Gold is triturated with the bark juice of drumstick (Moringa olifera). Small cakes are made, dried, sealed with mud pasted cloth and put to pudam. This procedure is repeated twice to obtain the *thanga chendooram.*

Instead of drumstick, the rose flower juice, juice or prostate plant (Lippia nodiflora) can also be used for preparing the chendooram.

Dose: 32mg -65 mg.

The *chendooram* removes neurasthenia and gives masculinity and vigor.

2. The purified gold is made into thin sheets. Sulphur is triturated with sugarcane juice (Saccharam officinarum) and the paste is applied over the fold sheets, seven times as and when the sheet dries.It is placed in a small mud pot, sealed with mud pasted cloth and put to *gaja pudam* to obtain the chendooram. When this chendooram (488 mg) is taken along with butter or honey, major illnesses like pulmonary diseases are cured; besides the body gets shining like gold.

3. Gold leaf (4.2 gm), mercury (6.3gm.), seven times processed salt-petre (10.5 gm.) and iron sulphate (10.5gm.) are trirurated for six hours adding leaf juice prostate plant (Lippia nodiflora). Cakes are made, dried and placed in a pot covered with earthen plate and mud pasted cloth and put to *puda* process. Then the *chendooram* is taken out after cooling.

Dose : 65 mg.

When this *chendooram* is taken with liquorice (Glycyrrhiza glabra- *Adhimaduram*) and butter or ghee twice daily for 40 days it improvess spermatogenesis.

4. Brittle gold is obtained by using the mercury (8.4gm.) which is added to molten gold (4.2gm). The juice of Mimosa paniculata - *(uppilan kodi)* is added and triturated for 18 hours. Cakes are made, dried, sealed with mud pasted cloth and put to puda process to get the chendoorm.

Dose: 32mg -65 mg.

The chendooram so prepared controls diabetes, emaciating disease and asthma. It also improves appetite and spermatogenesis. The chendooram should be taken with honey.

4. *Ehgu* powder (17.5gm) is melted in an iron pan to which gold powder(2.1gm.) is added gradually. Root bark ofwhite variety jewellet's bead (Abrus precautories) (17.5gm) and borax

5. (17.5gm) are made into fine powder. The powder is sprinkled on the above mixture gradually and rubbed using hammer until it becomes *chendooram.*

If the *chendooram* is not obtained well, again it is triturated with the juice of low spreading creeper (Glinus lotoides- *Siru Ceruppadı* for 3 hours. Cakes are made, dried and sealed with pasted cloth and put into pudam with 50 cow dung cakes to get a fine *chendooram.*

6. Gold leaf 12 gm is aoloved to perchloride of mercury,(4.2 gm) and triturated with the juice of Indian worm wood (Artemesia indica). Cakes are made,dried and put to 6 pudas to get the *chendooram.*

Dose: 32 mg -65 mg.

The *chendooram* improves appetite and removes fatigue and emaciating diseases.

Gold is also used as one of the active ingredients of the following medicines:

1. *Bhoopathi mathirai*
2. *Maha yeladhi mathirai*
3. *Poorana Chandirodhya mathirai*
4. *Poorana Chandirodhya chendooram*
5. *Maha vasandha Kusumagaram*
6. *Maharaja mirugangam and*
7. *Sayagulanthagam.*

In Allopathic medicine, gold compounds are used in the treatment of lupusery thematosus and rheumatoid arthritis. Since gold compounds are poorly absorbed orally, parenteral administration is required.

The radioactive isotope gold is employed therapeutically for treating of certain malignancies.

MANDOORAM

(Feroso ferric oxide)

Ferroso ferric oxide is also known as iron rust, impure of iron or *'Loga Mandooram'*. It is more potent than iron. This substance is obtained by melting the iron in a furnace and collecting it in waxy consisteny. Its taste, potency and action are similar to that of iron.

The *Mandooram* is useful in the following conditions:

Swelling of the lassitude *(vatha sobai)*Fever associated with bone disorders *(athisuram)*,severe anasarca and paleness (*kodiya vidapagam)*,wheezing dropsy due to abdomen enlargement *(neeraamaikkatti)*, Pallor, Asthma gonorrhoea and deranged kapha. It improves the hemopoisis.

The *Mandooram* should not be used in chronic diseases associated with loss of appetite, constipation and when there is fever.

Purification of *Mandooram*

The *Mandooram* is made into a fine powder and placed in a porcelain vessel. The vinegar of grape juice is poured over upto 4 inches above the level of the powder.The powder is kept soaked for two weeks. Then it is soaked in the garlic (Allium sativum) juice of for one week. During the soaking period, the old juices are replaced by fresh juice once in three days. The *Mandooram* is then fried in almond ghee or cow's ghee finely powdered.

Purification -Other method:

Mandooram powder (1 part) is added with 4 parts of tamarind leaves and 8 parts of water in vessel and boiled for three hours. Then it is cleaned by rubbing. The *Mandooram* alone is taken and powdered. 8 parts of cow's urine is added to it in a pan and boiled untill the urine completely evaporates. Then it is washed with water.

ULOGA MANDOORA CHENDOORAM

Ingredients:

Mandooram 1 part

sindh salt	-	*Induppu*	
Rock salt	-	*Kalluppu*	
Common salt	-	*Kariuppu*	
Glass gall	-	*Valaiyaluppu*	
Potasium Nitrate	-	*Vediuppu*	
Mercury			
Dried ginger(Zingiber officinalis)			
Pepper(Piper nigrum)			each ½ part
Long pepper (Piper longum)			
Garlic (Allium sativum)			

These are soaked in goat's urine and triturated with leaves juices of basil (Ocimum sanctum) and Trailing eclipta Prostrata) and subjected to puda process. Cakes are made and again put to puda process to get Mandoora chendooram as said in following Tamil verses.

Dosage: 130 mg.

"இரும்பினாஞ் சிட்டை யிலவணைபெண் ணாண்கை
இரும்பினாஞ் சிட்டைகணி யின்பை -இருப்பி
அரைத்துப் புடமிட்டி யாமுலோ கத்தை
அரைத்துப்பு மண்டூர மாம்."

"ஆதி லோகத் தயமெனுஞ்சிட்டத்திற்
பாதி லோகப் பாடலி தோன்றவே
வேதி யாது விவரமதை நாடொறும்
ஒதி யோதி யொழியவொண் ணாதரோ."

Adjuvants	Curable diseases
1. Cold water	Vatha
2. Juice of sour orange (Citrus aurantium)	Distended abdomen *(Uppusam)*
3. Toddy	Delirium due to urinary disorder
4. Juice of jujube fruit (Zyzyphus jujuba)	Toxic features
5. Rose water	Loss of memory Psychiatric illness
6. Juice of Alexandrian (Calophyllum inophyllum)	laural ascites
7. Juice of Indian sarasaparilla (Hemidesmus indicus)	Pitha diseases
8. Honey	Fever resulting from three humors.

Dietary restriction is similar to that of Aya chendooram.

Other methods of preparation of *chendooram:*

Pounded 140grams of *Mandooram* is soaked in 5.2 litre of goat's urine for one day and boiled till it dehydrates. Subsequently it is made red hot and soaked in cow's urine for ten times. It is then washed and triturated with the Indian aloes juice (Aloe vera) for a day. Then cakes are made, dried and sealed with mud pasted cloth and put into puda process for 2 feet height. This procedure is repeated with the following juices for 10 times in each.

1. Water thorn (Astercantha Longifolia)- *neer mulli*
2. Trailing Eclipta (Eclipta alba)- *karisalai*
3. Cadapa indica- *veezhi*
4. Uttamani (Pergularia extensa) - *uttamani*
5. Pomogranate (Punica granatum)

Dose: 488 mg

The chendooram is taken in the juice of Eclipta prostrata twice daily.

1. Ascites (mahodharam)
2. Toxic manifestation *(vida pagam)*
3. Sinusitis
4. Anaemia
5. Anasarca*(sobai)*
6. Throbbing pain *(soolai)*
7. Gastric ulcer *(gunmum)*
8. Scalding micturition *(neer kaduppu)*
9. Thirst
10. Diarrhoea *(kirani)*
11. Hernia *(Kudal vatham)*

Another method of preparation of *Mandoora chendooram*:

Thousand years old *mandooram* is melted and washed in cow's urine ten times and then poured in a mortar and powdered. The following substances are added to it.

Sulphur, mercury, cinnabar, carbonate of soda and borax (each one part).

They are trirurated with lime juice and put to 10 pudam. They are then again subjected to 10 pudams using juices of trailing eclipta (Eclipta prostrata) low spreading creeper (Mulluga lotoides) bastard sensitive plant (Coronilla sesban) and bark of peepul tree (Ficus religiosa). The *chendooram* is thus obtained.

Dosage: 976 mg.

Adjuvants:

The *chendooram* is taken in *thirikadugu chooranam* along with honey.

Curable diseases:

Anaemia due to food poison *(vida paandu)*, various types of anemia, pitha,kapha disease, jaundice, anorexia, vomiting , hiccough and rhinitis*(neerthodam)*.The *chendooram* also improves spermatogenesis. The muscles harden and the complexion becomes black.

"சுத்த மண் டூரந் துதிமகா மண்டூரஞ்
சித்தமண் டூரந் திரிகடுக-மொத்திடுமண்
டூரநா ரயணமண் டூரமிவை கட்குவெகு
தூரமாம் பாண்டொடுசோ பை."

Various types of *Mandooras* are also prepared and used in practice as detailed below:

1. MAHA MANDOORAM:

This is obtained by adding the *chooranam* of three pungents *(thirikadugu)*, three myrobalams*(thiribalaa)*,turmeric and (*vaividangam)*, Embellia ribes, root of bark of ceylon leadwort (plumbago zeylanica) and triturated with juice of eclipta prostrata.

Dosage: Size of a jujube nut

Adjuvants: Sugar and Honey

Curablr diseases: Anasarca and anaemia *(Paandu)*.

2. SITHTHA MANDOORAM:

Mandooram 280 gram is purified in cow's urine and powdered. It is boiled by adding 2.240 k.g of cow's urine till it reaches semi-solid consistency.

The following ingredients are added to this semi- solid mixture:

Thiripala Chooranam-	35gm.
Terinalia chelula (chelulic myrolalam-*kadukkai*)	
Indian goose berry (Emblica officinalis- *neeli*)	
Terminalia lelerica (Beleric myrobalam- *thandri)*	
Thiri kadugu Chooranam-	35 gm.
Dried ginger (Zingiber officinalis)	
Pipernigrum - pepper	
Piper Longum Long pepper	
Long peper root (Piper longum-*thipili moolam*)	35 gm.
Black pepper root (Piper nigrum-*sevviyam*)	35gm
Turpeth root (operculina turianthusm-*sivathai root*)	35 gm.

Spereading weeds (Trianthema decandra-*saaradai root)*	35 gm.
Black hellebore(Picrorhiza kurroa- *kadugu rogani*)	35 gm.
Embelia (Embelia ribes -vaai vidangam)	35 gm.
Deodar (Cerdrus deodara-devadaram)	35 gm.
Turmeric (Curucuma longa)	35 gm.
Tree turmeric (coscinium fenestratum - *Mara manjal)*	35 gm.
Ceylon lead wort (Plumbago zeylanica - chitra moolam)	35 gm.
Seeds of concessi (Holarrhena pubescens - kudasap palai vithu)	35 gm.
Nut grass (Cyprus rotundus -*korai kizhangu)*	35 gm.
Costus root (Costus speciosus - *pushkaramoolam or kostum*)	35 gm.
Aconite (Aconitum ferox - *naabi)*	35 gm.
Purging nut (croton tiglium-*naer valam)*	35 gm.

Dosage : Bonduc nut size

Adjuvant : Butter milk

Indications: Anaemia *(paandu*), anasara *(sobai)*

3.*THIRIKADUKATHI MANDOORAM:*

Ingredients:

Thiripala Chooranam

- Terinalia chelula (chelulic myrolalam- *kadukkai)*
- Indian goose lerry (Emblica officinalis- *neeli*)
- Terminalia lelerica (Beleric myrobalam- *thantri)*

Thiri kadugu Chooranam

- Dried ginger (Zingiber officinalis)
- Pipernigrum - pepper
- Piper Longum Long peper

Cardomom (Eletteria cardomomum)

Nut meg(Myristica fragrans -*Saathikkai)*

All in equal quantities

Ingredients	
Clove (Syzygium aromaticum) Fire flame flower (Woodfordia fruticosa - *kaattathi* flower) Long pepper root (Piper longum) Nut grass (cyprus rotundus- *korai Kizhangu)* Valerina root (Nardostachy's sadamanjil) The galls (Rhus succedanea- *karakadagasringi*) *Mandooram* powder *Loga* powder	All in equal quantities

Equal quantities of the above ingredients are mixed together and the *Mandooram* powder is then added equal to the weight of all the chooranams. Half part of the *loga* powder is then added and the ingredients are triturated with the juice of trailing eclipta (Eclipta prostrata).Pills are made these to the size of a jujube (Zizyphus jujuba).

Adjuvant : This is administered in sugar or honey.

Indications:

This is useful in the teratment of anaemia *(paandu)*, jaundice, pulmonary disease, anasarca *(sobai)* and fever.It also increases appetite

4. *NARAYANA MANDOORAM:*

Three pungenst - *thiri kadugu*

Three myrobalans- *thiri pala*

Long Pepper root (Piper longum - *thippili moolam)*

Cubeba (Piper cubeba - *yanai thippili)*

Black Pepper root (Piper nigrum - *sevviyam*

Knot plant (Clerodendron serratum - *siru thekku)*

Bishop weed (Trachyspermum ammi - *omam)*

Black henbane (Hyoscyamus niger - *kurosani omam)*

White sweet flag (Acorus calamus - *vasambu)*

Turmeric (Curcuma longa)

Black helle bore (Picrorhiza kurroa)

Garlic (Allium sativum)
Asafoetida (Ferula foetida)
Ash of peacock's Feather
Croton seeds (croton tiglium)
Bone setter (Cisus Quadrangularis - *pirandai)*
Fire flame flower (Woodfordia fruticosa - *kattathi flower)*
Chiretta (Andrographis paniculata - *nila vembu)*
Nutmeg(Myristrica fragrans - *saathikkai*)
Wild Asparagus (Asparagus racemosus - *thannirvittan kizhangu)*
Five leaved wild Indigo (Trianthema monogyna - *saaradai ver)*
Trailing eclipta(Eclipta prostrata - *karisalai)*
Secondary root of Banyan (Ficus bengalensis)
Bitter apple (Citrullus colycynthus - *thummatti kai)*

Equal quantities of the above are mixed together. *Mandooram* is added to their total quantity,and triturated with the juices of malabar nut (Adatoda vasica), Trailing eclipta (Eclipta prostrata), lemon, ginger, Chitagong wood bark (Chukrasia tabularis), pure old rice water and goose berry juice (Emblica officinalis) individually.

The *Narayana Mandooram* so prepared should be taken twice daily. The dose is equivalent to the size of a tamarind seed.

Adjuvants: Hot water and butter milk.

Curable diseases:

Anasarca*(sobai)*, anaemia*(paandu)*,jaundice, indigestion(*akkini mandham)*, gastric ulcer *(gunmum)*, throbbing pain *(soolai)*, pulmonary diseases,asthma and loss of taste, anorexia, sinusitis *(peenisam)* and *Paarisa soolai.*

KARUN KUZHAMBU

Magnet, *mandooram*, skin peeled jungle almond (Hydro carpus laurifolia)- 5.1 gm. each and croton seeds (Croton tiglium seed- 10.2gm) are taken purified and trirurated in a mortar till the mixture attains waxy consistency. It is then stored in a little box made of buffalo horn.

Dose: 244 mg.

Adjuvants: Palm jeggery

Curable diseases:

Dysmenorrhoea (*soodhaka vayu*), ascites(*mahodaram*), jaundice, lymphadinities associated with fever*(raththa vatha kunmakkatti)* and dropsy *(neerambal)* as explained by the following Tamil verses.

"கட்டாக வின்னங் கழறுகிறேன் வல்லத்துக்
கிட்டமொடு காந்தங் கிருபையாய்- நட்டமில்லை
நீர்வடியின் முத்து நிறையாய்க் கழஞ்சொன்று
நேர்வாளம் இரண்டாகு நேர்."

நேர்ந்திந்த நாற்சரக்கை நேரிழையே சுத்திசெய்து
போர்நிறைந்த கல்வத்திற் போட்டரைப்பாய்- சீராக
மேதிச் சிமிள்வைத்து வேண்டிப் பணவெடைதான்
பாதிபனை வெல்லத்திற் பாய்ச்சு."

"வெல்லமதி லுண்டுபார் மெல்லியர்கள் சூதகமும்
அல்லூருங் கட்டிநீ ராம்பலெங்க -சொல்லக்கேள்
காணு மகோதரமுங் காமாலை காய்ச்சற்கட்டி
பூணுபல வாயுவும் போம்."

MANDOORA MATHIRAI

Magnet, *mandooram*, rock salt, nigella seeds (Nigella sativa), three punget *(thirikadugu)* are taken 35gm each and triturated in a mortar with the juice of trailing eclipta (Eclipta prostrata) for three days (12 jamam) and cakes are made to the size of a coin and taken both morning and evening with honey for 7 days. It cures anaemia due to pitha toxicity (*pitha and visa paandu)*.During medication salt should be avoided.

MANDOORA ADAI KHASHAYAM

Ingredients:

Four spined menetia (Azima tetracantha - *sangan ver)*

Whole plant of small caltrops (Tribulus terrestris- siru nerunjil)

One styled Trainthema(Trianthemaportulacastrum -*saranai ver)*

Indian caper (Coccinia indica- *kovai)*

Whole plant of long leaved barleria (Asteracantha longifolia - *neer mulli*)

Tamarind (Tamaridus indicus)

Root of yellow berried night shade (Solanum surattense - *kandankathari)*

Bark of Indian laburnum (Cassia fistula- *konrai pattai)*

Leaves of indian olk (Cadapa trifoliata- *vizhuthi greens)*

Bitter kitchen herb (Gisekia pharnaceoides-*manali greens)*

Whole plant of wormkiller (Aristolochia bracteolata - *aadu thinna palai)*

Root bark of Indian sarasaparilla (Hemidesmus indicus)- *nannari verpattai*

Creeper of bottle gourd (Lagenaria siceraria-*surai)*

Peel of Beleric myrobalan (Terminalia belerica- *thanrikkai)*

Dried fruit of Indian gooseberry (Embica officinalis)

Peel of Chebulic myrobalan (Terminalia chebula - *kadukkai peel)*

Indian Aloes (Aloe vera-kattrazhai)

Neem bark (Azadirachta indica)

Turmeric (Curcuma longa-*kari manjal)*

Root of periploca of the woods (Gymnema sylvestre - *sirukurinjan)*

Bark of buck thorn climber (Ventilago madraspatana-*sengaththari*)

Bark of trumpet flower (stereospermum colais - *paathiri*)

The above ingredients are taken 35gm in each.

Iron filings- *arappodi*	r.q
Scoria of iron (*(irumbu chittam)*	r.q

The above drugs are taken (35 gm each) and placed in a big mud pot. Vinegar and cow's urine are added (10.4 litre) and boiled till it is reduced to 1.3 litre.

This *adai khashayam* so prepared will be useful in the treatment of flatulence,swellings, abdominal tumors and indigestion *(uppusam)*.

சங்கு நெருஞ்சில் சாரணை கோவை
தன்னுட னீர் முள்ளி
தான்றி கடுக்காய் புளியிலை நெல்லி
தாரெனும் வேப்பந்தோல்
மங்கிய கிட்டமி ரும்பின் அரப்பொடி
மஞ்சள் நன்னாரி
வழுதலை கொன்றை விழுதி குமாரி
மணலி சுரைக்கொடியும்
பங்கம்பாளை செங்கத்தாரி
பாதிரி குறிஞ்சானும்
பழகிய காடி கோசலம் விட்டே
பாகம தெட்டொன்றாய்ப்
பொங்கிய குடிநீ ரானது பருகப்
பொருமலும் வீக்கமுடன்
போத வயிற்றிற் கட்டியு முப்பலும்
பொடியா குந்தானே.''

13. *VENNGALAM* (BRONZE)

Bronze is a compound metal of copper and tin which are combined in the ratio of 8 : 2. It turns into brass when melting the copper and zinc mixed in the ratio of 7: 3. as stressed in the following Tamil verse:

'எட்டெடைச் செம்பில் இரண்டெடை யீயமிடில்
திட்டமாய் வெண்கலமாஞ் சேர்த்துருக்கில்- இட்டமுடன்
ஒரேழு செம்பில் ஒரு மூன்று துத்தமிடில்
பாரறியப் பித்தளையாம் பார்.''

Taste	:	Astringent
Potency	:	Hot
Action	:	Tonic alternative
Altered taste	:	Pungent

Bronze cures eye diseases, venereal diseases, polyuria, haematemesis, asthma, tiredness, diseases of kapha, pain due to vatha, throbbing pain and abdominal distension. It also improves Spermatogenesis and increases pitha as stressed in the following Tamil verse:

"நேத்திரநோய் சோமவினை நீர்ப்பெருக்கி ரத்தபித்தம்
வீழ்த்துசுவா சம்மந்தம் மேகங்கால்- ஆழ்த்துகபம்
வாதவலி சூலை மகோதரம்போம்; பித்தமொடு
தாதுவுமாம் வெண்கலத்தாற் சாற்று."

Purification of *Venngalam* (Bronze):

Moltan bronze is poured into the leaves juice of tamarind (Tamarindus indicus) thrice. Then it is poured in horse gram decoction (Dolichos biflorus) thrice to obtain purified bronze.

VENNGALA (BRONZE) *PARPAM*

Purified bronze powder is added to equal quantity of sulphur and then triturated with latex of muder (Calotropis gigantea) and insolated. This procedure is repeated seven times and then the mixture is placed in a crucible *(Vajra moosai)* sealed with mud packed cloth and put to *gaja pudam* for seven times to obtain the parpam. This parpam cures abdominal pain and chest pain.

VENNGALA (BRONZE) *CHENDOORAM*

Group -A

Venngala parpam	1 part
Cinnabar	½
Sulphur	¼
Mercury	1/8

Group-B

Latex of banyan tree(Ficus bengalensis)

Low spreading creeper

Root juice of Glinus lotoides *-seruppadai*

Bark juice peepul tree (Ficus religiosa)

Bark decoction of black babool (Acacia nilotia)

Portial tree Burea frondosa- *Purasampattai kudineer*

Root of cowitch decotion Mucuna pruriens - *poonaikalai*

Lime juice

Group -A- drugs are mixed together and triturated in a stone mortar. The trituration should be undertaken daily with each B - group - liquids individually. Then it is put to *gaja puda* process to get *chendooram*.

If the *chendooram* is not obtained properly again it is blown in a crucible to obtain the finished state of parpam.

This *chendooram* is useful in treating various kinds of diseases.

Toxic effect:

If the *chendooram* is not prepared properly it may be produce toxic signs, such as

1. Chest disease
2. Reduced life expectancy
3. Body heat.

Bronze is added in many drugs used for eye diseases such as *Navolaga rathinathi mathirai* and *rathinathi mathirai* .

14. *VELVANGAM*

(STANNUM-TIN)

Velvangam is also known as *velleeyam, vengalam, kudiyam,thavala vangam, suvedha vangam, paandi, maarasametc.*,

There are two types of *velvangam*. One is *kuragam* which is white in colour has the quantities of thickness, soft, oily , coolness, easily melting, soundless etc.The other kind is *misragam*, some what low graded then the *kurugam*, has the mixed colour of white and black, which is not used in medicinal preparation.

Stannum has got antiseptic and demulcent properties. It has astringent in taste and hot potency.It has also got the property of reducing oedema.Stannum is used for the treatment of morbid thirst (Polydipsia), eczema, certain skin diseases such as erysipilas, venereal diseases , fever etc. It is also used in treating the diseases of urogenital system *salapra megam*, *pitha kapha thontham*(bile and

phlegm humours joining together creating diseases) *thejasu kunral*(decrease of splendour brilliance), *thurpalam(general debility)*, *kiranthi (syphilis)*, *agnimantham (dyspepsia)* and asthma as stressed in the following Tamil verse:

" தாகங் கரப்பான் சலமேகம் பித்தகப
மேக மொளிமங்கல் வெப்புபலம் -மாகிரந்தி
துள்ளியமந் தார சுவாசமுமந் தாக்கினியும்
வெள்ளீயம் போக்கும் விதி."

In the west, the oxide of stannum has been advocated as a therapeutic agent in staphylococcal infections and in the treatment of boils etc. Stannum should be used only after it has been purified, If used in impure form, it is toxic. The purification process of stannum is similar to that of lead (plumbum).

VANGA PARPAM

The Stannum is triturated with the juices of whole plants as given in the tabulation (next page).

The stannum is triturated with the juices of whole plants as given in the tabulation as stressed in the following Tamil verse:

"படலிகையாங் கோவைவரை பட்சமைமுன் பாண்டீ
படலிகையாங் கோவையனு பானம்- படலிகையாங்
கீரந்தே மையங் கிலாலங்கா மன்மரிசங்
கீரந்தே மையமிது கேள்."

If the *vanga parpam* is taken in the size of a red gram is taken with the juice of holy basil leaves(ocimum sanctum), the *thiri thodas* due to *vatha. pitha* and *kapha* will be cured.

If it is taken with the leaves juice of trailling eclipta (eclipta prostrata), it cures the ascites, flatulence and catarrh.

If it is taken with the leaves juice of black mustard (brassica juncea), it cures, delirium due to pitha, anaemia due to pitha and menorrhagia.

With milk , it cures madness due to pitha.

If it is taken with honey insanity and a disease followed by unconciousness are cured.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of days dung cakes required for puda (6)
1. Large ridged gourd whole plant juice (Luffa acutangle - ***perum peerkku***)	140	15	14	1	60
2. Whole plant Juice Cucumber (Cucumis sativus- *vellari*)	105	10	9	1	40
3. Whole plant Juice of Juiceivy gourd (Coccina grandis- ***kovai***)	70	5	4	1	20

If it is taken with butter, diseases caused due to the combination of bile and wind humors and *(gleet, burning sensation) due to* excessive bile humours in the system are cured.

If it is taken with piper longum soup, it cures fever due to vatha pitha, hiccough,colic due to pitha,fever caused by excited wind humours with burning sensation, rheumatic pains, ascites due to the disease of liver and spleen and ulcerated piles with pus discharge caused due to vathapitham.

If it is taken with the pepper soup, it cures, delirious fever, dropsy due to vatha, amblyaphia due to vatha, migraine associated with paralysis, ascites with colic, paralysis with giddiness are cured.

Apart from these, many diseases will be cured if the parpam is given with proper adjuvants and in proper dose according to the severity of the disease and patients physique.

(The 'red gram' dosage mentioned here denotes that 1/8 part is best, half part is mediocre, ¾ part is not advisable and the whole part has to be completely avoided).

Other methods of preparation of *vanga parpam.*

Stannum (15.3) and sublimed mercury (15.3gm) are triturated with asphalt mineral pitch (15.3 gm) by adding lime stone water. cakes are made, dried and then put to puda process with 30 cow dung cakes. It is again triturated with lime water and insolated placed in an earthen shell sealed with mud pasted cloth and put to pudam 50 cow dung cakes to get pure white parpam like jasmine flower.

This parpam is useful in all types of anorectal diseases (*nava moolam*); it strengthens the pulse and improves the spermatogenesis.

Dose. 488 mg.

Adjuvants: Pomegranate flower powder and cumin seeds mixed in equal part with ghee.

Regimen: Black gram,dolichos, pumpkin should be avoided.

Another method:

Small thin piecess of tin is covered by the poultice of five leaved charm tree (vitex negundo) and kept in an earthen shell, sealed

with mud cloth and put to *gana pudam*. This is subsequently triturated with the juice of five leaved charm tree, made into cakes and put to puda process again.

VANGA CHUNNAM

One part of mercury is added to 4 parts of stannum and triturated until it becomes bristelled. Then 4 parts of egg shell are added and triturated again. One part of mercuric perchloride is then added to it and triturated by adding limestone water gradually until it becomes fold . It is placed in *Vajramoosai* (Crucible) sealed with mud pasted cloth and dried and blown to get the chunnam.

This chunnam is useful in the treatment of venereal diseases associated with throbbing pain *(megasoolai)*.

Dose: 65mg

Adjuvant: Honey.

VELVANGA CHENDOORAM

Purified powder of Stannum (35 gm) is taken and triturated with the juices as shown in the table (next page).

Cakes are made, dried and put to puda process. Only freshly prepared juices to be used everyday.

	Adjuvants	Curable disease
1.	Water *(Sethuma thontha noi)*	Kapha associated diseases
2.	Sugar	Fever
3.	Cow'sghee	Tuberculosis
4.	Pepper soup (Piper nigrum)	Diseases of the head *(Sirovali kootappini)*
5.	Hot water	Vatha associated diseases

6. Sugarcane juice	Syncope vayu
7. Betel leaf juice	Delirium
8. Bamboo leaves juice *(Gunmu sanni)*	Delirium due to ulcer
9. Arrack of black tabool bark Acacia nilotica-*velam pattai saraayam)*	Gonorhoea

The chendooram is also useful in treating fever, debilitating diseases and certain venereal diseases.

15. PON APPIRAGAM

(STANNIC SULPHIDUM)
(Mosaic gold bisulphurette of tin)

i. *Thanga Uram*

1. Ammonium Chloride	
2. Stannum	
3. Sulphur	All in
4. Mercury	equal parts

Chloride of ammonium, stannum, sulphur and mercury are taken in equal quantities and triturated. They are then placed in a glass jar and sealed with mud packed cloth and burnt in *Valuga* appliance for 25 hours and taken out when the mixture shines like a gold or mica. This preparation is useful in the treatment of chronic leucorrhoea(white discharge). It also improves appetite, memory power and strengthens the body. It also improves spermatogenesis. It is also used in urogenital diseases and acts as a tonic and carminative.

Dose:130mg - 260mg. as stressed in the following Tamil verse.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of days dung cakes required for puda (6)
1. Tamarind leaves juice (Tamarindus indicus)	210	6	5	1	30
2. Banyan tender leaves Juice(Ficus bengalen Ficussis)	210	6	5	1	30
3. Indian cadaba leaves juice (Barring tonia jacutan gula) -*Vizhuthillai charu*	210	6	5	1	30
4. Custard apple fruit tree leaves juice (Annona squamosa *Seethapazha mara vilai chaaru)*	210	6	5	1	30
5. Velvet leaves juice (Sida-acuta *ponmugattai juice)*	210	6	5	1	30
6. Lesser galanga leaves juice (Alpinia galanga)	210	6	5	1	30

"சாரம் தவளவங்கம் சத்திசிவம் ஓரெடையாய்
காரப்படிகாரம் காற்கூட்டி - நேரே
வளையல்குப் பிக்கேற்றி வன்னியிடு மாணா
விளையும் பொன் ணப்பிரகமே"

ii. *Velli* (Silver) *Uram*

1.	Ammonium chloride Silver	1 part
2.	Stannum	1 part
3.	Sulphur	1 part
4.	Mercury	1 part
5.	Alum	¼part

They are triturated and placed in a glass jar sealed with mud pasted cloth. It is burnt in *valugu* apliances for 25 hours.

Dose : 65mg - 130 mg.

Adjuvant: Nutmeg electuary *(Jathikkai leghium)*

It improves spermatogensis and strengthens the nerves. When this medicine is given with *amukkara chooranam (*withania somnifera) with honey, it cures caused due to venereal diseases *(mega soolai)*

16. VELLI (SILVER- ARGENTUM)

Velli is also known as *Aranpathi, Thuyyaan, venthadhu, kallu, Thaaram, kalathoutham, Venpon, Rasitham, Rasatham and Sukkiran. Theraiyar* called this as "*Madurai podhu*".

Silver is available on earth, mixed with the elements of gold, copper and arsenic. In ancient days silver was separated from mirdharsinghi.

The silver intended for medicinal use should be free from adulteration. If it is burnt in fire, it should be oily brightness like conch,shining,,whiteness, softness besides not broken and not sparkled when strike with hammer. These qualities are must for a pure silver. The silver having red, yellow and black colour should not be used for medicinal purpose.

Silver has got the following properties:

Taste	:	Sour,slight Astringent and Sweet
Potency	:	Cold
Altered taste	:	Sweet
Actions	:	Antispasmodic, stimulent,tonic, aph rodisiac, laxative,emetic, appetizer, demulcent.

It also gives freshness to the body and strengthens the brain.

General properties:

Silver is usefull in the following conditions:

Chronic fever*(purana suram)*

Toxicity *(maravidam)*

Sprain due to *megavatham(mega vatha pidippu)*

Leucorrhoea

Bleeding dysentry *(uthira bethi)*

Tuberculosis

Mental disorder

phlegm

Eye diseases

Cough

Bronchites

All type gastric ulcer,

Syphilis

Sinusitis

Scabies as stressed in the following Tamil verses.

"பாய்க்கூட்டங் காட்டாப் பழையசுரந் தாருவிடம்
வாய்க்கூட்டச் செய்மேக வாதமுதல்- நோய்க்கூட்டம்
அண்டாது காணிக்கொளுமத்திமே கக்கசிவும்
வெண்டாது காணின்மெய் மேல்."

"இரத்தங் கயம்பித்தம் ஈளைகண்ணோய் காசம்
உரத்தையும் அட்டகுன்மம் ஊதை -வருத்தும்

விரணஞ் சிலேட்டுமநோய் மெய்ப்புளிப் புண்ணூரல்
மரணமுறும் வெள்ளியினால் வாழ்த்து."

Purification and detoxification of *velli* (silver):

Silver should be used only after purification. If used in impure form, it may cause serious adverse effects such as spermatorhoeaand induces the disease related to constipationand and inflammation.

The silver thread is melted and made into thin sheets. It is heated and dipped in the juice of black night shade (Solanum nigrum). This procedure is repeated many times until the silver bristle purified form of silver is obtained.

Other method:

Silver is also purified as mentioned above by using the juice of bullet wood tree flower (Mimusops elengi- *magizhampoo)* (or) prickly poppy (Argemone mexicana *-piramanthandu)* (or) tuber of buffalo carolah (Momordica hispida *-pazhapagal kizhangu)* instead of black night shade juice (Solanum nigrum).

VELLI (SILVER) PARPAM

Preparation method I :

The purified form of silver powder (35 gm) is triturated with the juices as shown in the table(next page).

Cakes are made, dried and put to puda process, to get thepurified parpam.

The dose of the parpam being minute, is 1/6 th of the quantity of the drug that stays in the tip of the crow nose . It is preferable to take the drug for 48 days.

Adjuvants:	Curable diseases:
Juice of milk hedge plant	Fever associated with vomit ing and (Euphorbia igularia) diarrhoea

Butter milk	Indigestion, shivering due to vatha fever
Honey	Vatha delirium due to body heat,thirst, fainting, shivering of the body
Cow's milk	Pitha related diseases like gleet, asthma, ulcer, paralysis, menorrhagia, ten types of heat(tropical) diseases, delirium due to heat, haemorrhoids and jaundice.
Ghee	Kapha related diseases like,cancer of the cheek, gingivitis, skin diseases such as eczema, scabies, itching, spreading discolouration patches on the body, anasarca, and shivering affect in the both hands and legs.
Pepper soup	Vatha related diseases like, intercostal neuralgia affected in one side of the body, contraction, blabering, dyspnoea, hiccough and unbearable pain.
Piper longum soup	Various types of deliriums.
Dry ginger soup	Various types of anaemia,dropsy*(paandu)*
Alternanthera sessilis	Sleeplessness
Palm toddy	Diseases caused to derangement of three humours such as dyspepsia, vomiting and fever.
Hot water	Shivering fever associated with heat diseases like delirium, syncope.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of days dung cakes required for puda (6)
1. Whole plant juice of black night shade(Solanum nigrum)	245gm	9	8	1	45
2. Whole plant juiceof black thorn apple (Datura Stramonium) black variety	210gm	7	6	1	36
3. Whole plant juice of mountain ebony (Bauhinia racemosa)common	175 gm	5	4	1	26
4. Whole plant juice of Indian chamomile (Chrysanthemum indicum) -Black variety	140 gm.	3	2	1	14

Rose water	Relapsing diseases.
Cold water	For varous type of vayus
Juice of holy basil	Head diseases due to vatha
Sugar	Head diseases due to pitha.
Leaves juice of . Castor oil plant *(aamanakku)* English physic nut *(kaattaamanakku)* Alexandrian laurel *(surapunnai)* Heart leaved moon seed *(maaseenthil)*	Pains due to vatha in tongue, hands, head, skin.
Leaves and flowers Juice of sunflower, water lily, raw turmeric,indian acalypha, trailling eclipta	Pains due to pitha in tongue, hands, head and skin.
Leaves juice of *Kalipparattai* (a kind og greens) broom creeper*(kattukkodi)* Indian phyllanthus*(keezhaanelli)* bitter gourd*(paagal)*, holy fruit tree *(vilvam)*.	Pains due to kapha in tongue, hands, head and skin.

Special features:

Velli parpam is very particularly mentioned as special medicine as evidenced by the following Tamil verses for....

1. Bleeding from mouth - Heamatemesis
2. Bleeding from vagina- Menorrhagia
3. Ulcer pain *(Gunma vali)*

Also it strengthens the body.

"வஞ்சக் கோதார் சகுனியைச் சகாதேவன்
மாய்ப்பே னானென வுரைத்தான்"

"தம்பி சகாதேவன் வெம்பி யெதிர்த்திட்ட
சகுனி மாமன்தலை யறுத்தான்;

சபத முடித்தேனென் றப்போது ஞானத்தாற்
தன்னைத்தா னேமெத்த வெறுத்தான் ".

(Therar Maruthu Bharatham)

"இரசித பற்பவண்ணம் நவிலவெளி தாமோ?
உசிதம் எனுமஃதே யுண்மை-வசியம்
பெருகும் பசிவளரும்; பேதமிலை நோய்மை
அருகும் உடலுறுதி யாம்."

(Therar Porulpanbu)

VELLI (SILVER) PARPAM

Preparation method II :

1. Silver powder — 35 gm.
2. Pith plant leaf juice (Aeschynomens aspera- *nettiyilai juice)* — 70 gm.
3. Juice of Ivy gourd (Coccinia indica-*kovvai juice)* — 70 gm.
4. Black Babool (Acassia arabica-*karuvel)* — 70 gm.
5. Neem oil (Azadirachta indica)
6. Flower powder of pointed leaved ape (Mimusops elengi- *maghizhampoo)* — r.q

Velli parpam (silver) is soaked in the leaf juice of pith plant for 6 days. Fresh juice should be used every day. On 7th day it is soaked in Ivy gourd juice. On 8th day it is triturated with Ivy gourd juice. Cakes are made, dried and placed in a crucible.

The crucible has to be made as follows:

The bark of Black babool is triturated with neem ghee for 100 minutes then made into crucile and dried. Pointed leaved ape flowers are powdered and sprinkled in the crucible. The cakes are then placed in the crucible and crucible is filled with the powder and sealed with mud pasted cloth. Seven layers of mud pasted cloth are made and one layers is used per day. Puda process is undertaken with 100 cow-dung cakes.

The parpam will be useful in the following conditions:

Venereal rheumatism, wounds, itching, oozing in gonococcal infections, vitiligo with ulcer, chronic fever, kapha,mental disorders and sense of heat.

Adjuvants: Toddy, honey, ghee and sugar.

The parpam should be taken twice a day for 10 days.

Dietary restrictions:

Kodo millet, horse gram, ash pumpkin,mustard, gingelly (oil), tobacco and tamarind are to be avoided. Avoid sexual activity also during medication as stressed in the following Tamil verses.

இசையுமிவ் வெள்ளிப் பற்பநல் லவிழ்தம்
என்பதன் முன்னுறும்வாத
மேதரித் தணைத்த மேகவா தங்கள்
இரணங்கள் ஊறல்கள் மேகக்
கசிவுறு புள்ளிப் புண்பழஞ் சுரங்கள்
கபப்பிணி பைத்திய வெப்புக்
காதர மீதெலா மிதற்கனு பானங்
கன்னல்தேன் நெய் கருக்கரையாம்
வசையுறுநோய் கட் கிதுநிரை நிரையாம்
வகையறிந் தாடகி யளவு
வருமிருபொழுது முண்பது தசநாள்
வரகுகொள் கடுகுகூஷ் பாண்டம்
தசைதிலம் பிரமபத்திரி மடவார்
தகாதிது பத்தியம் புளிகால்
தருமதன் குணமும்பின் னையிருதினத்தில்
சடலம்வச் சிரமலை யாமே."

VELLI (SILVER) PARPAM

Preparation method III:

The juice of pointed leaved ape flower (Minusoaps elengi) is added gradually to molten silver in a crucible which is blown until the silver becomes brittle. This silver powder is triturated with the above juice . Cakes are made and dried. These cakes are covered

with five leaved wild indigo root (Thephrosia purpurea) and triturated with the above juice poultice. It is placed in a crucible and sealed with mud pasted cloth, dried and put into puda process with 100 cow-drung cakes to obtain a fine parpam.

Dose: 244 mg.

Adjuvants:	**Curable diseases:**
Ghee	Tuberculosis with Haematamesis.
Long pepper powder (Piper longum)	Tuberculosis, asthma,
Suitable adjuvant	Anorectal disease,Throbbing pain,fistula*(Pavuthiram)*

Regimen: Tamarind and smoking are to be avoided.

VELLI (SILVER) PARPAM

Preparation method IV:

Silver, sulphur and bismuth are taken in equal quantities. Sulphur and bismuth are ground with exudate of Calotropis gigantea for twelve hours. The silver is made into thin sheets. The materials which were ground, are now applied over on both sides of the silver sheets and dried. It is covered with mud soiled cloth, dried for one day and then subjected to *Gaja puda* to get the parpam.

When this parpam is taken with Adatoda decoction disease of phlegm,disease of haemorrhage will be cured. When given in the juice of lotus flower along with honey, the body will be strengthened. When administered in ghee or milk, fever affecting the bones *(Asthikatharogam)*, pulmonary diseases and chronic fevers are cured.

VELLI (SILVER) PARPAM

Preparation method V :

Silver	1 part
Stannum	1/8
Mercuty	1 part

The ingredients are triturated with *sanga diravagam (solvent of conch or shells)*. Cakes are made and put into puda process for 2 times to obtain the parpam.

Adjuvants: *Aswaganthathi* (Withania somnifera) *chooranam.*

1. Mental disorders due to pitha *(Pitha Brammai)*
2. Cholera *-oozhi*
3. Jaundice- *Kaamaalai*
4. Giddiness associated with vomiting
5. *Vayu*
6. Diarrhoea *-kirakani*
7. T.B. enteritis *-ulaimandhai*
8. A kind of tuberculosis *-suramaanthai*
9. Dysentery- *salakazhichal*
10. Tuberculosis
11. Fever due to bone disease
12. Gleet *(pithavettai)*
13. Chronic venereal diseaes

VELLI CHENDOORAM

Preparation method I:

Purified silver powder (35 gm) is triturated with the juices of Trumpet flower tree (Stereospermumcolais), wild asparagus tuber juice (Asparagus racemosus), black musale tuber juice (Curculigo orchides) and Ceylon lead wort leaves juice (Plumbago zeylanica) individually Cakes are made, dried and sealed with mud pasted cloth and put into puda process to get the chendooram.

Adjuvants	Curable diseases
1. Milk	Asthma
2. Cold water	Jaundice
3. Hot water	Gastric ulcer

4. Butter milk	Throbbing pain in the auxillary region
5. Leaf juice of mimusops hexandra	Pulmonary disease
6. Toddy	Night blindness
7. Honey	Contraction of muscle
8. Arrack	Gastritis with peptic ulcer
9. Ghee	Fever
10. Juice of *kadappam* (Barringtonia acutanguala)	Anaemia, dropsy
11. Juice of Indian Aloes (Aloe vera)	Leucoderma
12. Almond ghee	polyuria

Special properties of Velli chendooram:

Velli chendooram neutralizes *vatha, pitha, kapha* humours and cures the diseases associated with them. It gives cosmetic appearance to the body. It is also specifically used in the treatment of dermatological diseases (red, white and black varieties of leprosy).

VELLI CHENDOORAM

Preparation method II :

Silver which is purified and detoxified in Bitter gourd tuber juice (Mamordica charantia) is made into small thin sheets. It is triturated with black night shade juice (Solanum nigrum)and mother's milk for 12 hours individually .It is applied on both sides of the silver thin sheets, dried and placed in a crucible sealed with mud pasted cloth and put into *gaja pudam* to get parpam. Clove is added to the parpam equalent to its weight and triturated with the juices of black babool bark decoction (Acacia arabica), latex of mudar(Calotropis gigantea), low spreading creeper (Mullugo lotoides), banyan Latex (Ficus bengalensis), white babool bark decoction and sugarcane juice (Saccarum officinarum) individually for 3 hours .It is put into pudam with 30 cow dung cakes to get the chendooram.

Indications: Pulmonary diseases

Other uses:

Silver is made into thin silver paper like materials for the use of sweets which are over placed on sweets. Silver is also an ingredient in bhoopathy mathirai, poorna chandrodayam, Yemathanda kuligai and in eye medications.

Silver may be used instead of gold; but silver has inferior property than gold as stressed in the following Tamil verses:

''இரசித செந்தூர மின்புற்றுக் கேண்மின்
நிரைவெள்ளி வெள்ளி நிறையை -உருக்கிக்
குடுக்கைசெய்து சூதபலம் கூட்டுள் தமரிட்
டிடுவயக் கம்பிமே லீ.''

"ஈவாயதிற்கட் டிடுநாதஞ் சேர்பொடித்து
மாகுடத்தின் மத்தியிட்டு வாகதன்மேல்-தாவாமல்
மேற்குடுக்கை கம்பியிட்டு மேற்கவசஞ் செய்தடுப்பில்
காலறிந்தோர் சாமமெரி காண்."

"காணிரசி தக்குடுக்கை கண்கொள்ளாச் செந்தூரம்
பூணு வவிழ்தெடுத்துப் பூசித்துத் -தோணுகின்ற
நோய்விலகுந் தேகத்தில் நோவேதி ரத்தவிர்த்தி
வாய்க்குமிதைக் கற்பமதாய் வை".

VELLI CHENDOORAM

Preparation method III :

Silver leaf	24gm.
Black night shade juice (Solanum nigrum)	350gm.

The silver leaf is triturated with black night shade juice gradually for 12 hours without interruption. Cakes are made, dried and sealed with mud pasted cloth and put into puda process with 5250 gm. weight of cow dung cakes to get chendooram. Repeat this process and put into puda process with 1050 gm. weight of cow dung cakes for obtaining good quality of the chendooram.

VELLI CHUNNAM

Silver leaf	36 gm.
Egg shell	105 gm.
Perchloride of mercury *(veeram)*	2.6 gm.

These are triturated well with limestone water dried and placed in a crucible and sealed. Then it is put in a furnace and blown for 3 hours to get the chunnam.

II . PANCHA SOOTHAM

RASAM (HYDRAR GYRUM)

(MERCURY or QUICK SILVER)

The term '***Pancha Soothaas***' refer the five types of mercury *(Rasam)*.It has many connotations such has *sootham*, *punniyam,bharatham ,inimai*, *sivasathi,kesari*etc, according to *dasanga Nigandu.*

Mercury is obtained from ores in countries like Spain, California, Italy, Russia, China and Japan. It is separated from its ore Chinnabar. Mercury of commercial grade available in shops is in impure from, found mixed with lead, tin, sand,dust etc. If the impure mercury is used for medicinal purposes, it causes adverse effects. The mercury obtained from cinnabar is considered as pure and suitable for medicinal purposes.

Antagonists to mercury:

Plumbi oxidum	*Singi*
Yellowcoloured arsenic	*Gowri*
White arsenic	*Vellai*
One among 32 mineral poisons	*Kudhirai pall*
An acid salt	*Saththicharam*
Pottasium nitrate (salt petra)	*Vediyuppu*
Iron	*Irumbu*
Magnet	*Kaantham*
Camphor	*Soodan*
Sup chloride of Mercury	*Pooram*
Gold coloured amber	*ponnamhar*
Green vitriol	*Kartchavadu*
Fuller's earth	*pooneeru*
Bismuth	*Nimilai*

Agonists to mercury:

Mica	*Appiragam*
Lead	*Kaareeyam*
Realgon	*Silai*
Sulpher	*Kenthi*
Per chloride of Mercury	*Veeram*
Aresenic penda sulphide (Orpiment)	*Thalagam*
Mercury and sulphur mixing arsenic	*Thotti*
Silver	*Velli*
Copper	*Sembu*
Copper sulphate	*Thurusu*
Ammonium chloride	*Saaram*
Borax	*Kaaram*
Zinc	*Thutham*
Diluted phosphoric acid	*Theemurugal*
Artificially prepared bazaar drug	*Pavalapputru*
Blue vitriol	*Anjanakkal*

Types of mercury:

Mercury is classified into five types. It is made up of five basic elements on which it is classified into five according to the on basic elemental ratio.

1. **Rasam.** This term generally denotes the commercial grade mercury. It is red in colour and without any ill effects. Usually it is obtained by synthesis, since it is rarely obtainable in nature.

2. **Rasendhiran:** This is black in colour. It's property is similar to Rasa mentioned above.

3. **Sootham:** This is yellow in colour contains impurities. Hence it should be purified and detoxified before use.

4. **Misaragam:** This contains many colours. This also needs to be purified and detoxified before use.

5. **Baaratham:** This is white in colour and found in commercial

grades commonly. This also contains lot of impurities and hence should be purified and detoxified before use.

ஆறியே சூதமஃதைந்துவித மாகும்
அதன் விவர மேதென்னி லறையைக் கேளு
ஊறியே ரசமென்றும் இரசேந்திர மென்றும்
உற்றபா ரதமென்றுஞ் சூத மென்றும்
மீறியே மிசரகமென் றைந்து மாச்சு."

(Bogar 7000 : Book - II)

Mecury has got the following properties:

1. Vitalizer	5. Neutralising Pitha
2. Tonic	6. Silagogue
3. Laxative	7. Anti inflammatory
4. Diuretic	8. Medicine for Venereal diseases *(Meganasini)*

Taste: Six tastes- dominated by sweet.

Potency: Hot and cold (both- Speciality)

The mercury is the chief of all elements. It gives good health, protects the body and cures the diseases that affect the body. Further it facilitates to attain the following eight folded *Siddhi*s (*Attama siddhi*):

1. ***Anima***	:	The faculty of reducing oneself to the size of an atom.
2. ***Mahima***	:	The power of increasing one's bulk with out limit.
3. ***Karima***	:	The power of increasing one's weight or disintegrating the atoms of the body and enabling it to pass through more solid matter.
4. ***Lahima***	:	Becoming very light like feather levity.
5. ***Praapthi***	:	The power of attaining every thing desired.
6. ***Praakamiyam***	:	The power to overcome natural obstructions and go any where.

7. *Esathuvam* : Supreme domination over animates and inanimates in nature i.e., power to create, preserve and destroy.

8. *Vasithuvam* : Power of changing the course of nature or assuming any form in creation.

The effects of these *Siddhis* could be experienced by the Siddhars only.

Special properties of mercury.

Mercury, unlike other drugs, is useful in the treatment of diseases caused by both heat and cold. (but in other drugs, if a drug is useful in diseases caused by heat, it will definitely aggravate the diseases caused by cold) according to the following lines of the text *Theraiyar Sekarappa.*

"அத்த மாக்கும் அரசும் அளித்திடும்
சுத்த மாக்கும் சுகத்தை மிகத்தரும்
புத்த மந்திர பூதபை சாசபேய்
இத்த னைக்கும் இமயனி தாகுமே.

கவன வேகங் களுக்கிது மூலமாய்ப்
புவன மீதப் பொருளு மளித்திடும்
சிவன றிந்தது செப்பவொண் ணாதது
தவமு ளுற்றினர் தங்கட்கு வாய்ப்பதே.

இடிவி லக்கும் எறியனல் மாற்றிடுந்
தடிவி லக்கும் மெய்தனில் வெட்டைக்
கடிவி லக்கும் கடிவிலங் கைத்தெறும்
மிடிவி லக்கும் விரைபுன லாற்றுமே.

வேதை காட்டு மிகுதிறற் சத்துரு
வாதை காட்டும் மகிமையைக் காட்டுமேற்
காதை காட்டும் கவனத்தைக் காட்டுமா
போதை காட்டும் பொருணிலை காட்டுமே.

பவளம தரிதிற் கனிந்து
பழுத்த செம்பழமீ தென்ன
உவமமில் லாமற் றோன்றும்
உயர்பொரு ளதனை யாக்கும்
சிவமெனும் பொருளி தென்னச்
செய்யுமே தகுநன் மைந்தா
நவமணி நவமணிப பொன்
நவநிதி யென்ன லாமே"

வேதையாய் உலக மெல்லாம்
வேதிக்கப் பரிச வேதி
ஓதைநீர் உலகு வப்ப
உண்ணின்மா மேரு வென்னப்
பூதலத் தவர்க்குப் பஞ்ச
பூதத்தி னுடல்பொன்னாகும்
காதையீ தல்ல கற்பம்
காயஞ்சித் திக்கு மாமே.

(Theraiyar Sekarappa)

***Dhosas* (impurities) to mercury.**

It is considered that there are two types of dhosas (impurities) of mercury. They are:

1. Dhosa 2. Sattai (Kavasa)

In dhosa, according to one classification, there are eight types of impurities in mercury which cause various diseases as shown below:

Impurities	Disease caused by them
1. Undheenam	Throbbing pain *(Soolai)*
2. Kowdilyam	Diseases of the head *(Kapala noi)*
3. Anavartham	Maniac illness *(Biramai)*
4. Sangaram	Spermatorrhoea *(Thathu nattam)*
5. Sandathavam	Distress
6. Panguthvam	Morbid thirst and Leprosy *(Kuttam)*
7. Samalathvam	Fever and Syncope*(Moorchai)*
8. Savishathvam	Ematiation -Loss of weight *(Sareera Elaippu)*

உண்டீனம் சூலைநோ யுண்டாகுங் கௌடில்யம்
மண்டை நோயாகு மநவர்த்தம்- உண்டாம்
பிரமைசண் டத்வம்சந் தாபம்பங் குத்வம்
வருதாக மாங்குட்ட மாகும்.

ஆகுமே சங்கரத் தந்தாது நட்ட மலம்
வேகுமே மூர்ச்சைசுர மேதினியில்- வாகு
சவிஷத்வ மேயுடலம் தானிளைப் புண்டாகும்
இவிஷத்தை யோட்டில் நலம்."

Another Classification:

Eeight types of *Dhosas* (impurities) of mercury and the diseases caused by them:

1. *Naagam*	Anorectal diseases *(Moola noi)*
2. *Vangam*	Leprosy
3. *Malam*	Discolouration and Syncope *(Moorchai)*
4. *Vanni*	Thirst
5. *Saanchalyam*	Spermatorrhoea *(Thathau nattam)*
6. *Vidam*	Death *(Maranam)*
7. *Giri*	Scabies
8. *Asakyaakini*	Gonorrhoea

Seven types of *Sattai* and the diseases caused by them:

1. *Naagam*	Piles (Haemorrhoids)
2. *Vangam*	Skin diseses- Leprosy
3. *Malam*	Idiocy *(Arivinmai)*
4. *Vidam*	Death *(Maranam)*
5. *Akkini*	Morbid thirst Polydypsia
6. *Giri*	Distress *(sattium)*
7. *Sabalam*	Spermatorrhoea.

Properties of pure mercury:

Purified mercury is like ambrosia that drives the death;Impure mercury is like the poison which gives way to death.

Inorder to purify the mercury,. it should be taken in the proportions of 100, 50, 25, 5, 1 in an auspicious time. It should not be taken less then 35 gm.for purification process.

Method of removing the *dhosas* of mercury :

1. *Naagam:*

Mercury	1 part
Brickstone powder	16 parts
Turmeric powder-	16 parts

Mercury, brickstone powder and turmeric powder are added one by one separately and triturated with lemon juice for one day and washed with vinegar.

2. *Vangam:*

Bark of common kadamba (Anthocephalus cadamba) and sage leaved Alangium (Alangium salvifolium) are added to mercury and triturated with lime juice for one day. It is then washed with old rice water fermentation.

3. *Malam:*

Root of juijube (Zyzyphus jujuba) is added to mercury and triturated with lime juice for one day. It is then washed with old rice water fermentaion.

4. *Akkini:*

Bark of ceylon lead wort (plumbago zeylanica) is added to mercury and triturated with lime juice and then washed with old rice water fermentation.

5.*Saanjalyam*

Root of Black thorn apple (Datura metel) is added to mercury and triturated with lime juice and then washed with old rice water fermentation.

6. *Vidam:*

The *chooranam* of three myrobalans is added to mercury and triturated with lime juice and then washed with old rice water fermentation.

7. *Giri*

The *chooranam* of three pungents is added to mercury and triturated with lime juiceand washed with old rice water fermentation.

8. *Asakyaakkini:*

The *chooranam* of punctured vine powder (Tribulus alatus) is added to mercury and triturated with lime juice and then washed with old rice water fermentation.

All the above processes should be undertaken in **Thaptha kalvam*.

***Note:** *Thaptha kalvam* (Purification method) : A mortar made of iron or hard stone is placed in a pit and dug in an isolated house.The pit is then heated with the hairs of goat and bran.

Eight types of Dhosas and diseases caused by them according to *Theraiyar* :

1. *Sarppam*	Boils
2. *Vangam*	Skin diseases (Leprosy)
3. *Kenthi*	Heat
4. *Vanni*	Burning sensation
5. *Saanjalam*	Discolouration
6. *Malam*	Spermatorrhoea
7. *Kaalam*	Death
8. *Mantham*	Syncope

"சர்ப்பவங்கங் கந்திவன்னி சாஞ்சலம லங்காளம்
ஒப்பில்மந்த மெண்தோட மோட்டிரதத் -தைப்புசியார்
கொப்புளங்குட் டங்கியெரி கோதுவிந் திளைப்பித்தல்
அப்புளமூர்ச் சைக்குமுரி யார்".

Seven types *Dhosas* according to *Agathiyar* and the diseases caused by them.

1. *Naagam*	Bad odour
2. *Vangam*	Skin diseases (leprosy)
3. *Kenthi*	Thirst
4. *Vanni*	Spermatorrhoea
5. *Saanjalam*	Death
6. *Vidamam*	Toxic disease
7. *Logam*	Aphrodisiac

"தானே ரசத்திற்குச் சத்ததோ டங்களுள்
மானே யதன்பேர் வகுத்துரைப்பேன் -ஈனமாம்
நாகவங்க தோட நவில்கந்தி தோடமோ
டாகுவளி சாஞ்சலதோடம்.

தோடவிட மம்லோக தோடமதி லேநாக
தோடந் தனக்குண்டு துர்க்கந்தம் -தாழுமந்த
வங்கதோ டத்தில் வருகுஷ்ட நோய்கந்தி
யங்கதோ டந்தாக மாம்.

ஆம்வன்னி தோடத் தருந்தாது நட்டமாம்
போம்சாஞ் சலமுயிர் போக்கிவிடும் - தாம்விடம்
என்னுந்தோ டத்திற் கிசைந்தபிணி யுண்டாகும்
கன்னிலோகத் தோடமோகம்."

General properties of mercury.

Proper use of mercury as medicine, cures the diseases of eyes, syphilis,eight types of ulcers*(Gunmum)*,throbbing pain (*Soolai*), chronic ulcer *(perum pun)*, leprosy and Hansens diseases.

"விழிநோய் கிரந்திகுன்மம் மெய்ச்சூலை புண்குட்
டழிகாலில் விந்துவினால் அத்தை -வழியாய்
புரியு விதி யாது புரியினோ யெல்லாம்
இரியுவிதி யாது மில்லை".

Mercury has got two types of properties:

1. Beneficial propertis
2. Harmful properties

1. Beneficial propertis :

1. It purifies blood
2. It improves blood and sperms.
3. Stimulates appetite
4. Kills the micro -organisms and cures the ulcers
5. It cures the diseases of internal and external organs of the body.
6. It improves facial complexion
7. It improves memory power, eradicates Amnesia
8. It strengthens the nerve plexuses
9. It devolops wisdom through concentration of mind
10 It prevents senility and increases the life span

2. Harmful properties of impure mercurial preparations:

If the medicinal mercury is not purified properly,the disease like bleeding, dropsy, anaemia, excessive body heat, sweating, diarrhoea, thirst,flatulance,blabbering, skin diseases, burning sensation of the limbs, head diseases, fever, shivering, hiccough, etc., will manifest and finally death will occur. The whole body will be burnt and all the teeth will fall down.

" வேகமுந் திமிருஞ் சோம்பும்
வெகுண்டதோர் தாக முற்றும்
ஆகமுந் தளர்ந்து பின்னும்
அகோரமாய் உதிரஞ் சாய்க்கும்
போகமும் புணர்ச்சி தானும்
பொரிஞ்சுடன் தீய்ந்து போகும்
யேக மாயிரத தோடம்
இவ்வண்ணஞ் செய்யுந் தானே.

பத்தின யிரத தோடம்
பாண்டுவாம் மேனி யெல்லாம்
சத்தியே னோக்கும் பித்தஞ்
சத்தமுங் கெடுதியாகும்
பித்தமு மதிக மாகிப்
பிரலாப மாகப் பேசும்
பத்திய யிரத தோடக்
குணமெனப் பகரலாமே.

கலையைக் கிழிக்கும் அவிழ்த் தெறியங்
கல்லைத் தேடி யெடுத்தெறியும்
மலையிற் குதிக்கும் புனல்மூழ்கும்
மருள்சேர் பித்தந்தனைக் கொடுக்கும்
உலையின் அனல்போல் உடல்வெதுப்பும்
ஓயா உழலை வியர்வாக்கும்
பலகா லமுமே வாய்பிதற்றும்
பாத ரசதோ டமுமிஃதே.

மேகம் பறக்கும் அறிவழிக்கும்
மேனி யெங்கும் வெளுத்துவரும்
ஆகந் தளர்ந்து வயிறிழியும்
அரக்கு போலே உதிரம்விழும்
தாக மெடுக்கும் உப்பிசமாம்
சரீர மெங்கும் வேர்த்துவிடும்

பாக மிழக்கும் வாய்குழறும்
பாத ரசத்தின் குணமிதுவே.

வாலை யிரதங் கோபித்தால்
மருள தாகவே தான்பிதற்றுங்
காலை கைகள் நோவெடுத்துக்
காது செவிடா யடைப்பாகும்
பாலை யனைய வாய் குழறிப்
பாண்டு ரூவமாய் மெய்வெளுக்கும்
வேலை யனைய கண்ணீரும்
விகார வெறிக ளாய்விடுமே.

தேக்கிய யிரத தோடம்
சிரங்குபுண் சூலை காட்டும்
தாக்கிய யீரல் வற்றித்
தாகமுஞ் சுரமு முண்டாம்
வாக்குள கரமுங் காலும்
மண்டியே யெரியும் பற்றி
யேக்கமும் விசாரந் தானுஞ்
செய்யுமிவ் வண்ணந் தானே.

படுக்கையுந் திமிருஞ் சோம்பும்
பாதபங் கயமி ழக்கும்
அடுக்கிய பழுவைப் பற்றி
யனலெழப் பித்தஞ் சோரும்
திடுக்கெனத் தலைநோ யுண்டாந்
தீயெனச் சுரமு முண்டாம்
நடுக்கலும் விக்க லுண்டாம்
ரசகுண நாடி தானே.

சத்தியே நோக்கும் பித்தஞ்
சங்கிர கிரணி யாகும்
நித்தலுங் கழிச்ச லுண்டாம்
நெருப்பெழச் சுரமு மெய்தும்
சத்தமு மடத்துச் சோதி
தன்னையு மறைத்துப் போடும்
சுத்திய ராசத்தின் தோடம்
தொலைவிலா வியாதி யாமே.''

Antidotes for mercury poisons:

If the mercurial poison affects the gluteal region, dye plant root bark (*Saya pattai)* is powdered and given along with jaggery.

For fixation of teeth jaws the stem juice of ivy gourd (Coccina indica) may be poured on the tongue.

If there is burning sensation in limbs, urticaria, dryness of the throat and the patient is unconcious (amnesia), Barmuda grass root stalk (Cynodon dactylon- *Arugan kizhangu)* is triturated and dissolved in goat's milk or cow's milk or butter milk, or cotton seed milk is filtered and administered.

இந்த இரத தோடத்துக்
கவிழ்தம் குண்டி யைப்பிடித்தா
லிசையுஞ் சாயப் பட்டைபொடி
யினிய வெல்லத் துடன் கொள்ளத்

தந்தங் கிட்டி னாற்கோவைத்
தண்டுச் சாறு நாக்கிலிடத்
தானே தீரும் நெஞ்சுவற்றித்
தளர வுள்ளே வெதும்பிடினும்

பந்து வுடம்புங் கைகாலும்
பற்றி மிகவே யெரிந்திடினும்
பகரு முணர்வும் நினைவற்றும்
பதறிக் கிடந்தால் மூதண்ட

கந்தந் தனையே யாய்ந்தரைத்துக்
கனவான் பால்வெள்ளாட்டுப்பால்
கனத்த பருத்திக் கொட்டைப் பால்
கண்டா லரைத்துக் கொள்வீரே."

The relationship of mercury with other metals:

1. The pure red mercury combines with Sulphur in equal quanti ties to form gold.
2. Impure mercury combines with sulphur in equal proportions to form copper

3. Small quantity of impure mercury combines with large quan tity of sulphur, to form iron.

4. Large quantity of impure mercury combines with small quan tity of impure sulphur, to form tin.

5. Large quantity of impure mercury combines with small quan tity of sulphur which has more impurities than mercury, to form lead.

6. The impure mercury combines with sulphur which has more impurities than mercury to form zinc.

7. Pure mercury combines with arsenic in equal proportions to form silver.

Purification and detoxification of mercury:

Method - 1

Mercury(35gm) is mixed with the juice of whole plant thumbe (Leucas aspera) (166.25 gm) and insolated. and put to suriya puda. This procedure is repeated for ten days by adding fresh juice every day. Then it is insolated without adding the juice.. This procedure is also repeated for one more day. Then the mercury and the powder present along with it are poaced in a mud pot. The juice of thumbe (2800 gm.) is added sealed and burried for twenty days. It is then taken out after washing with water. The purified and detoxified mercury so obtained is suitable for preparation of *parpam, chendooram*, *kuru* and *kuligai*.

Method - II

Required quantity of mercury is placed in a thick cloth and squeezed for 1000 times. Then it is placed in an earthen pot. fresh water is poured in the earthen pot upto the level of 1" above the mercury level. The pot is heated with low intensity fire. The water level is maintained by adding water. When the water turns into black in colour, the mercury is separated and washed with vinegar for 4 or 5 times to get the purified and detoxified mercury.

Method - III

Mercury	175 gm

Ceylon lead wort root bark powder (plumbago zeylanica)	35 gm
Three pungent powder	35 gm
Asafoetida	35 gm
Rock salt *(Indhuppu)*	35gm

Mercury is triturated in a stone-mortar gradually with the above powders respectively for 36 hours.Then the mercury alone is separated by removing the powders. This process is repeated for seven times.

Method - IV

Mercury	35gm
Brick powder	required quantity
Turmeric powder (Curcuma longa)	required quantity
Indian Acalypha juice (Acalypha indica)	1.3 litre

Mercury is triturated with brick powder and turmeric powder for one hour respectively and washed with water. Then the mercury is boiled with the juice of Indian acalypha until it is detoxifid.

Method - V

Mercury is poured into the chilly fruits after removing the seeds. Ivy gourd leaf poul tice is covered on the chillies in four finger breadth thickness and sealed with seven layers of mud pasted cloth. These chillies are put into *kukkuda puda* to obtain purified and detoxified form of mercury.

There are different methods for purification of mercury such as;

Rasa chuthi : 18

Rasa chuthi : 7

Rasa chuthi : 9

Rasa chuthi : 14

Among these, the methods mentioned by *Agathiyar* and *Theraiyar* are worthy to be noted as said in the following verses:

Rasa chuthi - 18

"ஆச்சிது ரசத்தின் சுத்தி
யறைகிறே னடைவாய்க் கேளாய்
போய்ச்சுற்று புகையூ றற்றான்
மஞ்சளுஞ் செங்கற்றூளும்
பாய்ச்சுவாய் பொடியிருப்பு
பண்ணிடு வரைசெய் பின்னர்த்
தேய்ச்சிடு மேனிச் சாறும்
தேன்பிரண் டையுமா மத்தி.

மத்தித்துப் பின்பு கேளாய்
மருவிய விஞ்சிச் சாறு
கொத்தினா வாரைப் பட்டைக்
குறுகிய குடிநீர் தன்னில்
சித்திர மூலச் சாற்றைச்
சேர்த்தரை திரிப லாதி
வற்றிய குடிநீர் தன்னில்
மத்தித்தல் வளமை கேளே.

கேளினி யமுரி யோடு
கிளர்ந்திடு மத்தி யித்தி
நாளினில் நாவற்பட்டை
நன்றாகக் குடிநீர் செய்து
வாளினில் வெவ்வே றாக
மத்திக்கப் புனித மாகும்
ஆளினி யிரத சூது
மற்றுவெவ் வேற தாமே.

ஆமினி வகைவ கைக்கோ
ரளவதாய்க் கொண்ட ரைத்துத்
தாமினி யொவ்வொன்றாகச்
சலத்தினிற் கழுவிப் போடின்
ஓமினி வாலை சூத
ஆறுநீங் கிந்தத் சுத்தி."

செங்க லுப்பொடு சாரி பண்ணைநேர்
சீன மாவெடி காரநீர்
செறியு மாவரி குமரி நீரது
செலுத்தி யோர்சேர் சாற்றினில்

அங்க ரைப்பது மேழு நாளதில்
சட்டை யேழறும் சுத்தியாம்." *(Theran Karisal 300)*

Rasa chuthi - 7

"கொன்றை யழிஞ்சில் கொடிவேலிக்
கோலப் பட்டையில் மத்திக்க
இன்றே யொட்டடை யதனோடே
யிட்டே நாழிகை மத்திக்கத்
தென்றற் சந்தம் பழுபாகற்
றெண்ணீ ரிட்டே மத்திக்க
நன்றே கற்றா ழஞ்சாற்றில்
நான்மத் திக்க நலமாமே."

Rasa chuthi - 9

முருங்கை யிலைச்சா றதுவாகும்
முதிர்ந்த வழிஞ்சிற் பட்டையுமாம்
முருக்கூ மத்தை யிலைச்சாறு
முதிர்கொடி வேலிச் சாற்றி லுமாம்
அருங்காச் சாரணை யிஞ்சியுட
னான கையான் சாற்றிலுமாம்
இருங்கா வெற்றிலைச் சாற்றிலுமா
மென்றா ரகத்திய மாமுனியே.

Rasa chuthi -14

இரதந் தனக்குச் சட்டை யேழெட்
டறைந்தால் முன்னே ரவற்றின் தனித்தனி
தூய்மை சொல்லிச் சுகித்தனர் நிற்க
வாய்மை யதற்கு வன்மை யேற்றும்
தூய்மை விதிசிலதொகுத்துச் சொல்வன்
ஆய்வுற் றவற்றை யறிந்து செய்யின்
நோய்பல பிளந்தெறி நுண்கோ ட்ரியாம்
ஆகச் சூத மதுகுழிக் கல்லில்
பாகம் வேண்டும் பருவள விட்டங்
கவ்வள வேயெடை யரித்துகள் புகையூ
றவ்வள வேவெற் றிலைச்சா றாக்கி
அப்பாற் றாழை நீரீகத்தடுநீர்
செப்பரத் தம்பூ சிதைசா றோடல்
வெற்றிலைச் சாறு மிளிர்பா கற்கிழங்
கத்தகு சாறு மைங்கோ லத்தாம்
சத்தம் மான்பச் சரிசிச் சாறும்
தத்துசா ரணைய ரசம்பட் டைச்சா

றுற்ற கொன்றை யுடற் றோற் சாறும்
கொத்தான சாறுங் கூட்டித் தனித்தனி
மூன்று கடிகை முறையா யரைத்திட்
டப்போ தப்போ ததனைக் கழுவி
னிப்பாற் சூத மிரவி புரையும்
பன்னான் கென்னும் பகர்பொருட் டேய்மை
நன்றா யுரைத்து நாட்டி னோமே
குன்றா மருத்துவர் குறியறிந்திடவே."

Using the purified mercury *parpam*, *chendooram*, *chunnam*, *pathangam* (sublimation), pills, wax, *kattu*, *kalangu*, *eruvai*, ointment, fumigation, embrocation medicated oils et., are prepared.

It is also learnt that *Rasakuru* has been prepared for *vaidhya* and *vatha* and *Rasa kuligai* for attaining *Siddhi*.

Preparation of *Rasa Parpam:*

Purified mercury (35gm) is triturated with various juices as shown in the following table. Cakes are made, dried, sealed with mud pasted cloth and then put in to puda process to get the *Rasa parpam*.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1. Juice of Gowrival grass	105	5	5	1	....
2. Juice of Black thorn apple(Datura stramonium)	105	5	5	1	....
3. Tender leaf Juice of Banyan	105	5	5	1	......
4. Leaves Juice of Black betal (Piper betle)	105	5	5	1	40

5. Juice of Dates(phoenix dactylifera)	105	5	5	1	35

"இயக்குரோ தச்சிறையை யேய்புல்க ருமத்தை
யியக்குரோ தச்சிறையை யீந்தை -யியக்குரோ
தத்தை யரத்தை தசபஞ்ச மிகுருகு
நத்தை யரத்தையிர தம்."

Dose of the *parpam* is equivalent to the size of ¼ of the red gram pulse (Cajanus cajan)- *thuvarai.*

Uses:

The *parpam* is useful in treating various types of skin diseasesand spots. It also cures Tinea present in the head, upper limb, chest, joint etc,and other part of the region of the body looks like black, white and red lesions.

Adjuvants:

Honey, toddy, arrack prepared from fruit juices,water, sugar-cane juice, sugar, mother's milk, urine, saliva, hot water, butter, cow's milk,butter milk, curd and ghee.

"கரும்புறவு வெள்ளைசெம்மை கங்கைநிற மூன்று
கரும்புறவு வெள்ளைசெம்மை கங்கை -கரும்புறவு
மாதமுத வாரிமிச்சில் வன்னியைபால் மோரளைநெய்
மாதமுத வாரியனா வாய்."

On the administration of mercury parpam with Thorn apple black variety medicated pit oil internally and externally, venereal ulcers and oozing wounds will be cured:

Regimen:

Sugar, curd, butter milk, tamarind and buttershould be avoided. Sexual contact should be avoided.

"கருமத்தங் காய்வித்தை கண்டநெய் மேகம்
கருமத்தங் காய்வித்தக் கண்ப-கருமத்தம்
பூசனி ரதத்தவளம் புல்லளைமோ ராம்பிரமை
பூசனி ரதத்தவளம் பொய்."

KARU OOMATHAI VIDHAI KUZHI THAILAM

(THORN APPLE (BLACK VARIETY) SEEDS PIT OIL)

Ingredients:

1. Seeds of thorn apple black variety (Datura stramonium) 1400 gm.
2. Seeds of portia tree (Thespesia populnea- *poovarasu)*
3. Seeds of Adament creeper (Cissus quadrangularis- *pirandai*)
4. Seeds of Emetic nut (Catunaregum spinosa- *kaarai*)
5. Seeds of Alangium (Alangium Salvifolium- *azhinjil)*
6. Seeds of Countrysenna (Cassiasenna- *nilavaarai)*
7. Seeds of Indian night shade (Solanum anguivi- *mullikkai)*
8. Seeds of Ash pumpkin (Benincasa hispida- *poosani*)
9. Seeds of Bael (Aegle marmeloes-*vilvavithai)*
10. Seeds of Nux vomica (Strychnos nuxvomica- *etti)*
11. Seeds of . Tanner's Casia (cassia auriculata- *ponnavarai)*
12. Seeds of Alexandrian laurel (Calophyllum inophyllum- *punnai)*
13. Seeds of Dates (Phoenex dactilifera- *paereechai)*
14. Seeds of Ridger gourd (Luffa acutangula- *paei peerkku)*
15. Palmyra seed nut (Borassus Flabellifer- *panamkottai)*
16. Seeds of Wild snake gourd (Trichosanthes cucumerina- *paei pudal)*
17. Seeds of Basil (Ocimum sanctum- *thulasi)*
18. Seeds of Rough Bryony (Mukia maderaspatana- *musumusukkai)*
19. Seeds of Chillies (Capsicum annuum)
20. Seeds of Box leaved ivory wood (Chretia buxifa-*visiri seeds*)

The items from Sl . Nos 2 to 20 should be taken 1400 gm. weight in all separately.

White variety sal (Shorea robusta- *vellai kungiliyam)*	350 gm.
Wax	175 "
Dried Coconut kernel	175 "

The above drugs are placed in a vessel and subljected to *kuzhipuda* process and allowed to cool for 20 days and the thailam is collected.

Venereal ulcers:

This is of two types:

1. Congenital
2. Caused by sexual contact.

Congenitel venereal ulcer will have the following features:

1. Sense of heat present in the upper, lower limbs, thorax, face and mouth.
2. Anorexia
3. Excessive appetite
4. Thirst
5. Small red boils
6. Summer boil in the size of Alexandrian laurel fruit
7. Ulcer looks like *Sangam* fruit.

Vatha **body-** Ulcer in the calcaneal region of the foot, hypochondrial region, knee and ankle

Pitha **body-** Ulcer in the antecardium region, nipples and lateral aspect of chest

Kapha **body-** Face, axilla, shoulder, gum and buccal ulcers.

Venereal ulcers due to excessive sexual contact will have the following features:

Sites of appearance of venereal ulcers:

Vatha **body -**	Groin,testes and mouth.
Pitha **body -**	Face, leg , breast, hypochondrial region
Kapha **body-**	Bridge of the nose, ear and chin.

Body pain fever after four days, black, red and white discolouration of the skin and boils.

Dosage: 130-260 mg. *Muduku* oil may be applied externally.

Diet restriction:

Sugar, sugarcandy, jaggery, curd, tamarind curry, tamarind sause, buttermilk and its curry, sour fruits, butter, cakes made of flour, laddu, milk, ghee and foodstuff with hot potency should be avoided. Sexual contact should also be avoided.

Ash pumpkin, amaranthus gangeticus, radish and bottle- gourd may be consumed.

பாரப்பா விரணவகை மேகத் தாலே
படுமியற்கை யிரண்டுவகைப் பழமையாகச்
சேரப்பா தாய்தந்தை சங்கத் தாலே
தெரிவையரைப் பார்த் தணுகச் சேர்த லாலே
நேரப்பா விவையாவும் மேலுண் டாகி
நிரை நிரையாய் வருமிதைநீ நேம மாகத்
தேரப்பா விவையறிந்த பேர்கட் காமே
சித்தி யெல்லாம் ஒருக்காலே தெளிந்திட் டாயே''

அன்னைபிதா வெனுமிருவர் சுக்கிலசுரோணி
தக்கருப்பத் தணுகிப் பின்னர்
வன்னியென வொருக்காலே வளர்மேகப்
பருவரலால் வளர்ந்த புண்ணி
லுன்னிலிரு வகையியற்கை யென்பதின்மே
லொன்றுரைத்தா மொன்று மாறாகக்
கன்னியரைக் கூடுதலா லணுகுமது
யுண்ணாகக் காணு மாலோ.''

மாறான வகைக்காய் மெடுத்த தேக
மானிடரி லிரண்டுவகைப் பதிப்ப தான
ஊறான விதமறிவா ரகர்காண் முன்ன
ருத்தமபண் டிதத்தலைவ ருரைத்தா ரிங்கு
வீறான கதைவாள்பத் திரத்தி னாலு
மேயநகம் பல்கல்பாய் தல்வீட்டாலுங்
கூறன யிவையிவையே பகுத்துப் பார்க்கக்
கொள்ளவரு முறைமை யெலாங் கோட னன்றே.''

"என்னந் தியார்முன் னிசைத்த முறைப்படி
சொன்னந் திடமிலாச் சோகைமெய் மேகமாம்
பின்னந் தனிலொன்று பின்வாளி னூறொன்றே
யின்னந் தனிலே யிரண்டிரண் டாகுமே."

Dietary restrictions for mercurial medicines:

In general, when the medicines containing mercury are taken, the following should be avoided:

Fish, salt, oil, alcholic beverages and diets which are astringent and sour in taste; sexual contact should be avoided.

RASA PARPAM

(Another method)

Take 35 gm. of mercury and grind it in a *kalvam* with palmyra leaf stalk juice, for 24 hours and then make it into pills.

Then the pills are dried and put into the palm leaves. Three layered mud pasted cloths are made and dried in the sunlight and put into puda process with 30 cowdung cakes. After cooling, there will be a fine parpam known as *sootha* (mercury) parpam.

Adjuvants:	Curable diseases:
Ginger juice	Delirium
Ghee	Venereal diseases
Honey	Pitha disorders
Dry ginger docoction	Fevers
Jaggery	Syphilis

"பாரப்பா சூதபற்பம் சொல்வேன் மெய்யாய்ப்
பரிவாகச் சூதமதை சுத்தி செய்து
காரப்பா ஒருபலந்தான் கல்வத் திட்டுக்
கரியபனை மட்டையிற் சாறு வாங்கி
சேரப்பா சாமமொரு யெட்டு நன்றாய்த்
திடமாக வரைத்ததனை வில்லை தட்டே.

கட்டப்பா காசினுட கதுமம் போலக்
காயவிட்டு பனையோலைக் குள்ளே வைத்து
எட்டப்பா சீலையொறு மூன்று செய்து
உலரவே ரவிமுகத்தில் காய்ந்த பின்பு
தொட்டப்பா முப்பதெருக் குள்ளே வைத்து
கூசாதே புடம்போடப் பற்பமாமே.

ஆமென்ற சூதபற்பங் கண்டி வீத
    மப்பனே சன்னிக்கு யிஞ்சிச் சாற்றில்
போமப்பா மேகத்துக் கெல்லா நெய்யில்
    பொல்லாத பித்தத்திற் கிடுவாய் தேனில்
வேமென்ற சுரத்துக்குச் சுக்கு நீரில்
    வெடிக்கிரந்திக் கேகிடுவாய் வெல்லந் தன்னில்
ஓடுமென்ற நோயெல்லா மனுபா னத்தி
    லுத்தமனே தெரிந்திடநோ யோடிப் போமே."

RASA PARPAM

(Another method)

Take 280 gm. of mercury and get it purified as said for *Thangarasa parpam*. Mix it with common salt and brick powder and put it into puda process with mud sealed cloth. Takeout the sublimation *(pathangam)* on the upper mud pan and place it over the pit mortar*(Kuzhi kalvam)* and add equal quantity of *sanga dhiravagam* and grind well. Then place it in the sunlight alongwith *kalvam.* On drying it will turn into the colour of the moon, then keep it safe.

Dose: ½ coin weight twice a day for 7 days with water.

Curable diseases:

Ulcers, deep seated pain, syphilis,carbuncle, abscess,vatha diseases,eczema,inquinal bubo,convulsions, ulceration in the thigh, stomach pain and skin diseases etc.,

FOR ADVERSE EFFECTS (SIDEFFECTS)

For mouth ulcers caused due to *Rasaparpam:*

1. Ingredients:

Boiled and dried areca nut *(kalippakku)*	equal quantity
Peel of Terminalia chebula*(kadukkai)*	,,
Acacia nilotica bark *(karuvelam pattai)*	,,
Dried Black fruit of emblica officinalis *(nellivatral)*	,,
Jambul bark (Syzygium cumini-*naaval)*	,,

Boil the above items adding 8 times of the weight of the ingredients and gargle to cure mouth ulcers caused due to the intake of parpam.

2. The bottom root of the burmuda grass (Cynodon dactylon - *arugam) and* pepper are pounded well and a decoction is prepare and drink.

Take some butter (areca nut size) while drinking the decoction every time, by which the mouth ulcers caused due to the intake of *parpam* will be cured.

"பார்புக ழினியொரு சேரெடு சுத்திசெய்
நீரழ லுப்பொடு செங்கலி லிட்டதை
மேலிடு கடமெரி சுடுதழல் தனிலிடு
சாலிடு நீற்றினை யெடுசரி நிறையே
எடுவிடு சங்கநீ ரதிலரை ரவியில்வை
கடுமதி நிறமது காசரை யிருகால்
நீர்தனி லிடுநா ளேழதில் வெகுரணம்
வேர்கெடும் ரணசூலை கள்வெடி சூலைகள்
திண்படு மரிகிரந் திகள்பல வகைசேர்
புண்படு ரணவிப் புருதிகள் பிளவைகள்
வாதம் படுவன் வருமரை யாப்பு

மீதி னிரண மேக முதிர
வாயுக நெஞ்சடை வலிரணம் வயிறு நோய்
தேயுந் தொடைரணம் சிராவண முதலாம்
ரணமதில் வருமறு நூற்றுக்கும் வெகு
குணமிகு பாத ரசமிதை யுள்ளிடக்
களிகடு கருவேல் கருநெலி நாவல்
வளிதீ யெரிநீர் வைத்திடு கொப்புளி
வாய்வே மதுவிடும் வைத்திடு வறுகும்
காயநீர் மிளகுட னிட்டிடு வெண்ணெயை
அதிலிடு குடிரச வீரஂ தடிபடும்
அதிகுண பாதரச பற்ப மதற்கே."

Other methods of preparation of *Rasa parpam:*

Purified mercuy (35gm) is triturated with oil of black thorn apple seed (Datura stramonium) -pit oil for five days. Cakes are made, insolated for five days, placed in earthen shell sealed with mud packed cloth and put to *puda* process.

Curable diseases:

The parpam is useful in treating cough, asthma, fever and venereal diseases.

Dose: 32 mg.

Adjuvants: Honey, ghee and sugar.

RASA CHENDOORAM

Method of preparation - I

Leaves juice of the following eight items.

i. Pigeon pea leaf juice (Cajanus cajan- *thuvarai)*

ii . The Indian kino tree (Pterocarpus indicus- *vengai)*

iii. Straggling prickly shrub (Mimosa rubicaulis- *pulithodakki)*

iv. Bengal currants (Carissa Carandas-*kalaa)*

v. Wild Cinchona (Anthocephulus cadamba- *kadambu)*

vi. Cock's comb greens (Celosia argentea- *pannai)*

vii. Bottle gourd (Lagenaria siceraria- *surai)*

viii. Marsilea quadrifolia *(aarai)*

Purified mercury (35 gm) is triturated with juices of the leaves of pigeon pea (Cajanus cajan), Indian kino tree (Pterocarpus indicus) caesalpinia, bengal currants(Carrisa carandus); wild cinchona (Anthocephulus cadamba), cock's comb greens (Cerosia cristata), Bottle gourd (Lagenaria siceraria) and Marsilea quadrifolia individually. Cakes are made, dried and kept in earthen shells and sealed with mud packed cloth, put to puda and taken out. After cooling the *chendooram* is collected and kept safe.

Adjuvants	Diseases
1. Juice of basil (Ocimum sanctum)	Scrotal swelling *(Viraivatham)*
2. Leaves juice of mudar (Calotropis gigantea)	Sense of heat due to *Pitha*
3. Juice of the sacred lotus (Nelumbo necifera)	Ulcer associated with pitha

4.	Juice of Indian globle thistle (Spheoranthus amaranthoides)	Pulmonary disease
5.	Nut grass(Cyprus rotundus)	Anorexia due to pitha
6.	Juice of leaf of soma tree (Prosopis spicigera)	Abdominal pain
7.	Water	Sense of heat associated with *vatha*
8.	Parched paddy rasam	Heat disorders that cause giddiness

Method of preparation - II

Group -A

Mercury	140 gm
Sulphur	8.75 gm.
Orpiment	17.5 gm.

Group-B

Gold

Zinc

Mercury

Mercury, sulphur and orpiment are made into powder and placed in a bottle and sealed. It is subjected to puda for 36 hours. The red colour sublimation is present in the upper aspect of the bottle. The sublimation is triturated with *vediyuppu dhiravagam* and fried in the bran heap fire heat and sealed in a bottle and subjected to puda for 36 hours to get the chendooram.

Chendooram 1 part, gold and zinc each 1/8 of the weight of *chendooram* are taken and triturated with *vediyuppu dhiravagam* and fried in the bran heap fire and sealed in a bottle and subjected to puda for 24 hours.

Note : *Vediyuppu dhiravagam*: Acid prepared out of pottassium nitrate and other minerals. It is obtained by distillation of *vediyuppu* 350 gm and alum 840 gm.

Method of preparation - III

Mercury	1 part
Sulphur	1 part
Ammonium chloride	1 part

These three are triturated for 3 days and put into *kasi kuppi* which bottle and its mouth are sealed with mud pasted cloth and dried . An earthen pot with thick bottom is taken and a hole is make into the bottom of the pot. Salt (NaCl) 1.3 litre is placed in the pot while the above sealed bottle is placed on the NaCl. Again the bottle is covered with NaCl 1.3 litre. Sand is poured on the NaCl upto the level of the mouth of the earthen pot. The mouth of earthen pot is covered with another earthen pot and sealed with mud pasted cloth and placed on the oven and heated for 36 hours in *kamalakini*. This process is done in an air free area and allowed to cool. The chendooram is then collected.

Method of preparation - IV

Mercury	1 part
Sulphur	1 part

Mercury and Sulphur are triturated with the juice of low spreading creeper (Mullugo lotoides- *Ciru seruppadai*) for 3 hours, made into small pills dried and placed in a bottle. The bottle is sealed with mud pasted cloth. The sealed bottle is put into above said puda process to get the chendooram.

The *chendooram* is used with aconite and pepper as follows:

Rasa chendooram	1 part
Aconite (Aconitum feron- *Naabi)*	1/8 part
Pepper(Piper nigrum)	1/8 part

These three are triturated and kept for use

Dose. 65mg- 130 mg.

SOOTHA KARUPPU

Purified mercury	1 part
Salt petre calcinated *(Vediyuppu chunnam)*	1 part
Fresh sore eye plant root bark (Dichrostachys cinerea)	8 parts

The above mentioned ingredients are triturated with Indian acalypha juice (Acalypha indica) for 6 hours continuously. Cakes are made, dried and sealed with mud pasted cloth and put into puda with cow dung cakes, weighed about 8 times of the weight of the puda setup.

Dose *:* 130 mg- 260 mg.

Adjuvants: cow's ghee, honey, milk

Indications:

Vatha diseases, rheumatic arthritis *(keelvaayu)*, gastric ulcer (*gunmam*), wounds and neurolues (*narambu kiranthi).*

Sublimation of *Rasa Pathangam*

Required quantity of mercury is taken and triturated with potassium nitrate dravagam. Cakes are made and dried.

Three parts of common salt (sodium chloride-NaCl) and one part of brickstone powder are taken and mixed together; half portion of these is placed in a mud pot. The cakes are placed over these. The pot is covered with another pot and sealed with mud pasted cloth. The mud pot is heated for 12 hours.

After cooling , the *pathangam* which is found deposited on the upper mud pot is taken and the dravaga is added and triturated as said above and the cakes are made and heated again till the material settles at the bottom after sublimation. The substance so settled is the *Rasa pathangam* (sublimated mercury). It is also called as *'Sandarasa parpam'*

Dose: 16 mg to 32 mg

The *pathangam* is useful in the following conditions:

STD, venereal ulcer, gastric ulcer (*gunmum)*. throbbing pain

(soolai), leprosy, diseases of *kapha* and *vatha*, delirium associated with fever. Strict diet regimen should be followed.

RASA MEZHUGU

Mercury	7 gm
China root (Smilax china)	7 gm
Long pepper(piper longúm)	14gm
Clove (syzygium aromaticum)	14gm
Palm jaggery	required quantity

These drugs are triturated with palm Jaggery and made into 2 gm pills.

Dose: One pill -twice a day. with cow's milk for 7 days only.

Regimen: Salt free diet. After 15 days oleation should be taken, followed by intake of chicken soup.

Indications:

Gum diseases, venereal diseases
Leucoorrhoea
Veneral ulcer.
Deep venereal ulcer
Venereal swelling or tumour or bubo about groine
Venereal pains
Arthritis

"வாட்டமா மின்னமோ ரநுபா னங்கேள்
மைந்தனே வாலைரசம் வராகனி ரண்டே"

"வராகனெடை யிரண்டப்பா பறங்கிப் பட்டை
வீறான திப்பிலியி லவங்கம் ரண்டும்
வராகனெடை நாலப்பா கரும்பு வெல்லம்
விசையடங்கத் தானரைத்தே யுண்டை கேளு
வராகனெடை முக்காலா யுருட்டி மைந்தா
வீறுகெட்ட மானிடர்க்கு மேழு நாள்தான்

வாரகனெடை முக்காலா யந்தி சந்தி
விவரமுடன் றான்கொடுத்து மேலுங் கேளே."

கேளப்பா பத்தியந்தான் உப்பா காது
கிருபையுடன் பசுவின்பால் கூட்டிக் கொள்ளு
நாளப்பா பதினைந்தா நாளி லேதான்
நன்மையுடன் தலைமுழுக்கு முழுக வாட்டு
கேளப்பா வொன்றுமில்லைக் கோழிச் சாறு
கூட்டியே பத்தியத்தை முறித்துப் போடு
வேளப்பா வாயெல்லாம் வெந்து காணும்
விதமாகத் தான்றானே யாறுந்தானே."

தான்தானே யாறுகையிற் றீரு நோய்கேள்
தண்மையிலா மேக வெள்ளை தடிப்புப் புண்கள்
சேர்ந்ததொரு அழிகிரந்தி குழியென் கிரந்தி
தீராத அரையாப்பு மேக சூலை
போந்தானே கால்முடக்குக் கைமுடக்குப்
பொல்லாத நோய்களெல்லாம் போகுஞ் சொன்னேன்
நாந்தானே வாலையிட கருணையாலே
நன்மையிலா வியாதியெல்லா நலம தாமே."

RASA THAILAM

Betel leaves (piper betle)	175gm.
Pavetta indica leaves	175 gm
Ivy gourd (Coccinia indica)leaves	175 gm

The above leaves are placed in a large stone mortar *(ural)*. Mercury (8.75 gm) is then added. The substances are pulverized with the help of a wooden pestle *(ulakkai)*. The pulverized material is placed in a vessel. Two litres of castor oil is added and mixed well with the help of a wooden spoon and then subjected to *sooriya puda* for three days and again mixed well.

Curable diseases: Syphilitic due to venereal heat *(Nunakkaai kiranthi)*

Dose: 8.75 gm. per dose for required number of days.

"சூலினி பற்ப ணம்பிம்பி
முப்பன்னந் தொடிகளைந்தைந்
தாலினிக் கந்தங் கஃசிட்
டிடிமுத் தவிப்படிசேர்
கோலினி ருமித் தழுழிய
ளாவிக் குடிகஃசுண்
மேலினி ரைத்த நுணாக்காய்க்
கிரந்தி விரணங்களே."

The *thailam* is also useful for ringworm with ulceration, scabies, fissured wounds, black spots on the foot, trunk and upper limbs,venereal diseases etc.

விரண மடர்படர் தாமரை
பாமை வெடிப்புணினுஞ்
சரண முறுப்பங்கை யாங்கரும்
புள்ளி சதுமணிநோய்
கரண மிலாஞ்சன மேகக்
கசிவுகண் டத்தலங்கற்
கிரண முறுமிர தத்தெண்ணெ
யீதுப்பிற் கெஞ்சினுமே."

MEGAVIRANA KALIMBU
(MERCURY OINTMENT)

Mercury, cinnabar, camphor, perchloride of mercury, calamine, copper sulphate, lead oxide (plumbi oxidom), Jungle almond (Hydnocarpus laurifolia), psoralea seeds, poppy seeds (papaver somniferum), turmeric and bees wax are taken (17.5 gram each). All the substances except bees wax are placed in a mortar and powdered. Coconut oil is boiled and then bees wax is added. The above powders are mixed with oil mixture and kindled well. The ointment forms after cooling. It is applied to heal the ulcers with raised margin.

RASA PUGAI
(MERCURY SMOKE)

Mercury	5.1 gram
Clove (Syzygium aromaticum)	5.1 gm

Perchloride of mercury	5.1 gm
white resinous gum	
(Shore robusta)	10.2 gm
Charchol of burnt mudar root	16.8 gm

The above said substances are triturated in a mortar for 30 minutes till it becomes a fine powder. A white cloth is taken and dipped in juice of cotton leaf (Gossypium herbaceum) and dried. The seed of rough chaff tree (Achyranthus aspera) 21 gm. is added to the above powdered substances and packed in white cloth. It is placed over tamarind and then placed in a coconut shell and burnt. The fume (smoke) is inhaled through coconut shell and bamboo pipe in to the nostrils for 7 times.

Dietary restriction: Salt and tamarind should be avoided .

Diseases cured: Diseases of *vatha,* rheumatism, *soolai kattu* and pricking pain.

Rasakkattu: Consolidated mercury (solidified mercury-*Rasakkattu).* It is considered that when mercury combined crab's juice, it becomes *kattu* (solidity).

RASA GURU

Mercury, sesame (Sesamum indicum) seeds and latex of square spurge (Euphorbia antiquorum) are placed into the coconut kernel and the dried coconut mouth (hole) is sealed with bees wax. It is burried in earth for one month and then taken out and powdered so as to get the corel coloured medicine for use.It is used to cure all *vatha* diseases.

"குருவினற் பெருமையைக் கூறுதுங் கேட்டி
வச்சிரச் சுதைநிலம் வற்றல் தேங்கா
யச்சுறப் பொருந்தியு ளமைவுற விரதஞ்
சேமித்த ரக்கினாற் சேர்த்திமண் சின மதி
யாமுறு பின்னரதற்குள் வகைசெயிற்
பாண்டரங் கன்கடப் பவளவண் ணம்பெறுந்
தாண்டவம் புரியுமித் தானு லோகத்தி
லிருவழி நடத்திடு மியல்பென வாத
வைத்திய மிரண்டையும் வாய்த்திடப் பாக்கு
நயத்தொடு குளிகையை நானுரைத் திடக் கேள்

KULIGAI (KAVANA)

Purified and detoxified mercury is placed on the flesh of the snail and covered with leaves of mudar (Calotropis gigantea), Erythina stricta and Wrightia tinctoria *(Vetpalai)* added with required secondary minerals. After melting it becomes *kuligai*, which is called *kavanakkuligai*.

"நந்திப்பி யுட்டசை நண்ணவைத் தருக்க
முருக்குவெட் பாலையா மூலிகை யினங்களிற்
செய்வன புரிந்துரத் தினவுப ரசங்கள்
பெய்துருக் கிடவது பெயர்பெறு குளிகை
யாகும தன்றிறம் யாரறிந் துரைப்போர்
கூறுங் கவன குளிகைய தாகும்."

RASA KULIGAI

The great Siddhars have described, how the *Guru* and *Kuligai* are prepared by using mercury for which the conch,coconut, juice of Mimosa cinerea *(vidather)*, Milk hedge of quadrangular spurge, bees wax and sesame seeds are processed.

Further the leaves juice of neem and the juice of Indigofera aspalathoides *(sivanaar vembu)* are used for changing the other metals into gold and to attain the *Attama Siddhis*.

As the *Guru* was used to make gold, the *kuligai* was used to attain the eight folded divine powers. This requires no adjuvants.This is also ascertained by the following verse of *Siddhar Konganavar:*

"குருகுளிகை சூதநத்து கொப்பை விடத்தேர்பால்
குருகுளிகை சூதநத்து கொண்மூ - குருகுளிகை
மாறன்றா ராகநிதி மாகிமையெண் சித்திவண்மை
மாறன்றா ராகநூன் மை."
"கேளப்பா குருகுளிகை யிரண்டேபாரில்
கிடையாத சிவ சத்தியுடலான் மாவில்
வாளப்பா லௌகீக வைதீ கம்போல
மாறாத வேதாந்த சித்தாந் தம்போ
லாளப்பா நீயிதனைச் சூத வித்தை
யாகுமடா பொன்னுலகை யடக்குஞ் சித்தி
நீளப்பா சௌபாக்கிய மிதுவே யாகு
நின்மலமா குந்தேக நெடிது தானே."

2. *RASA CHENDOORAM*

(RED SULPHIDE OF MERCURY)

This is different from the *Rasa chendooram* comes under Rasam (mercury).

Red sulphide of mercury is commercially prepared by combination of mercury and sulphur. This is found as an ingredient in many medicinal preparations. Before it is added to the medicinal preparation, it has to be purified as follows:

i. It is kept soaked in mother's milk for 24 hours. It is then washed and dried to get purified form.

ii. Lemon juice is also used instead of mother's milk.

iii. It is triturated with neem bark decoction (Azadirachta indica) for 12 hours, dried and powdered.

Its preperties and actions are more or less similar to cinnabar. An external application for scabies is prepared by using Red sulphide of mercury as follows.

CIRANGU POOCHU

(Ointment for Scabies)

Coconut oil	2 litres
Oil of Jungle almond	
(Hydnocarpus laurifolia)	1 litre
Neem oil (Azadirachta indica)	1 litre

The above ingredients are mixed together and boiled in a hearth. Bees wax (1,500gm) is cut into small pieces and added to the above mixture. After it has melted, the pot is taken away from the hearth. Red sulphide of mercury (20 gm), sulphur(40 gm) and plumbioxidom (20 gm) are powdered individually and then mixed together, sprinkled in the oil and kindled well till the oil hardens. This is takenout after it has cooled. The preparation so obtained is very effective in the treatment of scabies and ulcers when applied locally.

3. LINGAM - JAATHI LINGAM

(RED SULPHIDE OF MERCURY)

(NATURAL CINNABAR (or) LINGAM (or) VIRMILION)

Red sulphide of mercury is also known as *Inkuligam, raasam, kadai vanni, karpam, kalikkam, kaanjanam, kaaranam, sandagam, samarasam, saaniyam, ch¬ndooram, maniraagam, milecham, vani* and *vanni.* Nowadays , the red sulphide of mercury used by us, is called as *jathi linga* paadana, grouped under *'vaippu paadanam'*

Method of preparation:

Purified Mercury	280 gm.
Sulphur	70 gm
Potassium nitrate	70 gm.

Mercury is thoroughly mixed and triturated with sulphur. Potassium nitrate is then added; placed in a conical flask and burnt for 18 hours. After cooling, the red sulphide of mercury is collected out.

It is hard when it is put into fire it becomes smoke; not soluble in water, it has no smell and taste and has hot potency. It has properties of a tonic. This preparation is effective in the treatment of diarrhoea, pyrexia, delirium, urticaria, diuresis, tuberculosis, scabies ,unknown insect bites, syphilis, leprosy, eczema, skin diseases, throbbing pain *(soolai)* and vatha diseases.

''பேதிசுரஞ் சந்தி பெருவிரண நீரொடுத
காதகடி காசங் கரப்பான்புண் - ணோத
வுருவிலிங்க சங்கதமா யூறுகட்டி யும்போங்
குருவிலிங்க சங்கமத்தைக் கொள்.''

"ஆதி யிரதவுருக் காதலாற் சாதிலிங்க
மோதி லிரதகுண முற்றுடலிற்-றீதுபுரி
குட்டங் கிரந்தி கொடுஞ்சூலை வாதமுத
லுட்டங்கு நோய்களையோட் டும்."

It has the properties of curing the diseases caused by the earth element and cures the diseases caused by the water element.

நிலத்தி லெழுந்தபிணி நீங்காக் கிரந்தி
சலத்துடனே சூலைவெடி தானகற்றும்- பலத்ததாம்
சாதிலிங்கத் தின்குணத்தைச் சாற்றினேன் சன்னிமுதல்
ஓதுசுரம் போமே ஒளிந்து.''

Method of purification:

1. Alangium bark (Alangium savlifolium) -1400gm is powdered and added with vinegar 5.2 litres and placed in dews in the night. The next day it is rubbed and kindled well. 35 gm. of cinnabar is tied well in a cloth and put into the above liquid. The pot is covered with another pot sealed with mud pasted cloth, dried and exposed in dew for one day. It is heated with low intensity fire (flame) until the liquid is dehydrated for 24 hours. Then the cinnabar is taken out and cleaned well. This procedure is repeated using the vinegar soaked individually with the whole plant of Vitis lanata *(puli karunai)* and Indian sarasaparilla root as stressed in the following Tamil verses:

'சொல்லக்கேள் புலத்தியனே மகனே யிந்தத்
துறையான சாதிலிங்க சுத்தி தானே
வெல்லக்கே ளழிஞ்சில்புளிங் கருணை யோடு
மேலான நன்னாரிக் காடித் தண்ணீர்
புல்லக் கேளதிலோர் மூன்று வைகல்
புகையாமல் விளக்கிலெரி யழுக்கு நீங்கும்
வெல்லக்கே ளளவுதொடிக் கொன்றே வீசை
வெறுந் தண்ணீர் நாலுபடி வீத மாமே.''

"மேகப் பிணிமுதல் போக வென்றால்
மேலாம் லிங்கம் சுத்தி செய்ய
மாகத் தமிஞ்சி கருணை நாரி
வாய்த்த புளிநீ ரொன்பா நாள்
பாகத் தழலெரி தீவி கைபோற்
பாம்புப் பிடகர் கைப்பண் பிதென
வேகமதை நீக்கென் றாடாய் பாம்பே
மேலாஞ் சரக்கிதென் றாடாய் பாம்பே.''

Another method of purification:

1. Lime juice, cow's milk and the Indian acalypha juice are mixed in equal proportion and allowed to fuse cinnabar so as to get it in a consolidated potency state.

2. When the crude form of red sulphide of mercury is soaked for one day in mother's milk and lemon juice respectively, it becomes purified.

"முன்னுசாதி லிங்கந் தன்னை
முலைப்பாலி லூறவைத்தே
பின்னருநற் சம்பீ ரத்தின்
பெருங்கனிச் சாற்றிற் சுத்தி."

Dosage: For intake 650 mg and for fumigation 2.1 gm.

The *Parpam*:

Purified Red sulphide of mercury (35 gm) is taken and triturated with the juices as mentioned in the following table. It is then dried and put to puda to get the *parpam*.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1. Whole plant juice of Indian laburnam (Cassia fistula - *sarakkonrai*)	140	4	3	1	32
2. Fruit juice of Nux vomica (Strychnos nuxvomica- *naattu etty*)	140	4	3	1	30
3. Whole plant Juice of Alexan drian Laurel (Calophyllum ino phyllum- *punnai*)	140	4	3	1	32

4. Whole plant Juice of Nut grass (cyprus rotundus-*vaatkorai*)	140	4	3	1	30
5. Whole plant Juice of Holy mountain ebony (Bauhinia tomentosa-*thiruvaaththi)*	140	4	3	1	32
6. Whole plant juice of mango tree (Mangifera indica.)	140	4	3	1	30
7. Whole plant juice of palmyra tree (Borassus flabellifer)	140	4	3	1	32
8. Whole plant Juice of Hairy stalk figged banyan (Ficus dalhousiae - *kallaal)*	140	4	3	1	30

Dose: 1/8 size of a pigeon pea (Cajanus cajan).

Suitable land for taking the parpam: *Kurinji* (hilly region) and *Neithal* (seashore region).

Unsuitable lands: *Marutham*(pastoral region), *Mullai* (land of forests) and *Paalai* (waste lands) are not suitable.

Suitable months: Mid November to mid December; mid March to mid April; mid April to mid May; mid August to mid September and mid October to mid November are suitable to take this parpam. Other months are not suitable for consumption.

Curable diseases and Adjuvants:

Asthma, swelling, dropsy, fevers, ulcers, venereal disease, perversion, bearing down pain, rheumatism, itching and delirium caused by the following adjuvants respectively, are curable with this parpam.

1. Hog weed (Bauhania procumbens-*mookirattai)*
2. Boerhaavia diffusa (*Irattai piramattai)*
3. Nymphae alba (*aambal)*
4. Nymphae edulis(sevvalli)
5. Chebulic myrobalan
6. Beleric myrobalan
7. Ficus dalhousiae-*(kallal)*
8. Ficus microcarpa (*kuriviyaal*)
9. Curd
10. Butter milk
11. Cow's milk
12. Breast milk
13. Butter
14. Sugar
15. Sugar candy
16. Palmyra jaggery
17. Jaggery
18. Sugarcane juice
19. Ghee
20. Coconut oil
21. Tender coconut
22. Rose water
23. Basil (Ocimum sanctum)
24. Rosary nut (Elaeocarpus ganitus- *uruthira sadai)*
25. Gooseberry (Emblica officinalis)
26. Indian Phylanthus (Phyllanthus amarus)
27. Sessil plant
28. Trailing eclipta

29. Thorny Shrub *(varal mulli)*.
30. Hygrophila auriculata *(neermulli)*
31. Thumbe (Leucas aspera)
32. Chamomile flower (Chrysathemum indicum-*chamanthi)*
33. Aquatic root (Aponogelon monostachyon-*kotti)*
34. White Indian water lily*(neithal)*
35. Hot water
36. Water.

"மூக்கிரட்டை வீக்க முளரிரண மேகமுழை
மூக்கிரட்டை வீக்க முளரிவனி -மூக்கிரட்டை
யாம்ப லரியா லளைபர்லை புல்குளம்நெய்
யாம்பலரி யாலளைநெய் யார்."

GUNMUM- ANAR PUN (ULCER):

In this disease there will be abdominal pain, loss of appetite, rigour, sense of heat and ulcers may also appear in the following regions:

1. Nipple of mamma	*Sathiya vatha*
2. Shoulder	*Asathiya vatha*
3. Sternal region	*Sathiya pitha*
4. Chin	*Asathiya pitha*
5. Buccal cavity	*Sathiya kapha*
6. Foldings of knee joint	*Asaathiya kapha*

Treatment of *gunmam (Anar Punn):*

The parpam is taken with the following ingredients for curing the above said 6 types of vatha diseases.

Pollen of jasmine,lily,ash pumpkin, alexabdrian laurel and, Indian aloes and honey each 2 parts, 1 part of *linga parpam* is added with the above substances and triturated for 9 days and dried in shade till it becomes semi solid stage *(kali)*. This *kali* is given with the following adjuvants; lotus, Indian acalypha, Tinospora cordifolia *(seendhil)*, burmuda grass, sugar and ginger root as stressed in thc

following Tamil verses:

''மலையாள மானதொரு கொங்கு தே
    சத்திலுளமனிதர் பெருவயிறுகுன்ம
    மாறாத புண்ணிரண மேகா னலப்பிணிகள்
    வகையாறு வாத முதலா
உலையாமல் வாகடர்க் கசையாம லடர்மந்திர
    வுத்தியினு மொழிவு றாம
    லுட்டணப் பெருவெள்ள
    மிட்டணத்தடியரியையுறு மதகயத்தை நிகரா
யலையாமலே வடிவு குலையாமலே நலிமை
    யாகாமலே வேதனை
    அண்டாமலே வலிமை தண்டாமலே
    பிணிமை யாளமலே காதர
மிலையாகு மாறுவகை சாத்திய வசாத்தியத்
    தெய்துமவை யாவுமுண்மை
    யிங்கிலிக பற்பத்தி னுங்கலவை மையினா
    லினமான வனுபானமே.''

மெய்யப்பா மலையாளர் மெய்க்குள் ளாறா
    வெப்பனலாங் குன்மமகா விரண மாறா
யெய்யப்பா லெனவாகி யரந்தை செய்யு
    மிப்படியி லிப்படியாம் வகையே தென்றாற்
செய்யப்பா விங்குலிக பற்பத் தாலே
    செம்மையுண்டா மிதையறியார் திருட்டு மாந்தர்
பொய்யப்பா வவர்நடத்தை யறியொ ணாது
    புன்மையெலா மாறியப்பா னன்மை யாமே.''

செய்யதொரு சாதிலிங்கக் கட்டி வாங்கிச்
    சிவமூலி வேர்ப்பட்டை யரைத்துக் கூட்டி
வெய்யதொரு குகைதனிலே வைத்துமூடி
    விதமாகச் சந்துவாய்ச் சீலை செய்து
துய்யவே குக்குடத்தில் நீறிப் போகும்
    சுகமாக நீற்றுப்பார் எடைபோகாது
உய்யவே நோயெல்லாந் தீர வென்றால்
    உறப்பாக வனுபான மொன்று கேளே.''

''ஒன்றுதான் தேனிற் கொள்ள
    உறுதியாம் குன்ம வாயு

பண்டுள சந்நி வாதம்
    பாரிச வாயு சூலை
வென்றிடு மிரும லீளை
    யிளைப்புடன் விரைந்து போகும்
நன்றது சுரமுந் தீரும்
    வங்களு நாடா தோடும்
முன்றிடு மனுபா ணங்கள்
    கண்டுகொள் ளுகந்தி டாயே."

Other methods of preparation of *parpam*:

1. Cinnabar 35 gm is triturated with the root bark of wiry Indigo (Indigofera aspalathoides) placed in a crucible and sealed with mud pasted cloth and then put into *kukkuda pudam* to get the parpam.

Dose: 65 mg. 3 to 5 days twice a day.

Adjuvant: Honey

Curable diseases: *Gunma vayu*,delirium due to vatha,hemeplegia, throbbing pain, cough , tuberculosis and pyrexia.

Dietary regimen: Milk rice may be taken . Avoid pungent foods.

2. Nux vomica seeds (strychnos nux vomica) are soaked in the juice of trailing eclipta (Eclipta prostrata), triturated well and made as paste. Cinnabar is covered by the above paste and sealed with mud pasted cloth and put into *lagu pudam* to get the *parpam*.

LINGA CHENDOORAM

Purified red sulphide of mercury is consolidified with the juice of garlic (Allium sativum) (1.3 litre) and root bark juice of Cleome viscosa (1.3 litre) individually washed and powdered.

Dose : 65 mg.

Adjuvant: Honey.

Another Method:

Purified red sulphide of mercury (35 gm) is consoldified with the whole plant of bitter apple (Citrullus colocynthis) (1.3 litre). It is then washed and the *chendooram* is collected.

The Chendooram is useful in the treatment of fever associated with chill, diseases of vatha and kapha and venereal diseases (gonorrhoea).

Dose : 65 mg.

Adjuvant : Honey

LINGA KATTU

A sufficient quantity of *lingam* (cinnabar) is kept soaked in the mother's milk for 9 days and on 10th days it is washed and dried. Camphor and Benzoin are triturated in a mortar and the paste is divided into ten portions. It is pasted in a white cloth. One portion of this is used to cover red sulphide of mercury burnt over a lamp. After cooling, the burnt material is taken. This procedure is repeated with the remaining nine portions.

The linga kattu so obtained is useful in treating of the following conditions.

Adjuvants:	**Curable Diseases**
Honey	Vayu
Thirikadugu	Heart attack, diarrhoea, abdominal
chooranam	distension, delirium,
vayu	and syncope
Ginger juice	Throbbing pain, dropsy due to pitha, toxic mani festation, abdominal pain, anaemia
Ceylon leadwort decoction (Plumbago zeylanica)	For all other diseases.

SANDARASA PARPAM

Cinnabar is triturated with Sanga thiravagam and placed into the sublimating appliances and heated. The cinnabar is sedimented in the upper and lower pot. It is collected and again triturated with Sanga thiravagam This procedure is repeated for four times. the

Cinnabar is settled down in the lower pot. It is collected and stored as *Sandarasa parpam.*

Dose: 488 mg.

Indications:

Diarrhoea, cholera, dropsy, anasarca , jaundice , anaemia, ascites, gastric ulcer , flatulence, throbbing pain in umblical infection, aneuria, constipation, dysentery , anorectal diseases, chronic fever, tremor, venereal disease , delirium due to vatha , syphilis, glandular swelling, arthritis, scrotal swelling and the vayu in the sacral region.

PADIGA LINGA CHENDOORAM

Lingam	35gm
Alum	280gm

The above two ingredients are powdered individually and triturated together. Chebulic myrobalan flower (Terminalia chebula) 35gm and Devil fig flower (Diospyros embryopteris) 105 gm are boiled with 650 ml of water and the decoction is prepared by reducting it into ¼ th . Then the above powder is triturated with the decoction to get the Padiga linga chendooram.

Dose: 390 mg to 650 mg

uvant: ghee or butter

Indications: Dysentery, diarrhoea with bleeding, menorrhagia , cholera and diarrhoea associated with fever.

SATHI SAMBEERA KUZHAMBU

35gm.of *lingam* is mixed with 525 gm. lime juice. Camphor 10.5 gm is powdered and placed in a mud plate and heated. The above mixture is added to it and kindled well until it reaches semi solid consistency.

Indications:

Loss of appetite, diarrhoea, fever, syncope, vomiting, thirst due to pitha, discolouraion of the body and nausea as stressed in the

following Tamil verses:

"பாச னத்திலை யிரண்டு
பாத வாலு கம்மதைத்
தேச னன்மு னீறதாக்கு
தெள்ளு தரத மாம்மிரம்
வாச நன்மெய்ச் சம்பமாது
வண்ண நீர்பெய பகஷசமாய்ப்
பேச நீர்சேர் பதமதாக்கு
பெரிய சாதி குழம்பிதே."

வேந்தர் வானர் முதலினர்க்கு
விள்ளு மிக்கு ழம்புசேய்
மாந்த பேதி வெப்பு மூர்ச்சை
வமன பித்த தாகமும்
சாந்த விந்து வெண்மை
சாற்று மங்கி யின்மையும்
பாந்தள் வாயின் தேரை
யென்னப் பாறு மிளகுகொள் முனே".

LINGAM for VENEREAL ULCER *(MEGA PUNN)*

Cinnabar is purified, deoxified and consolidated by the juices of

i.. Melothria maderaspatana *(Musumusukkai)*

ii. Pergularia extensa *(uthaamani)*

It is taken internally with suitable adjuvants.

External application:

Triturated with butter and applied externaly for Venereal ulcers and leprosy.

The topical application is then washed with soap nut water (Acacia sinuata)

இங்குலிக மானே இலிங்க மாம்வாறு
இரதமும் ரசமுமே யேக மேயிவை
இரணப்புண் குட்டந் தீருந் திறத்தே."

LINGA PUGAI

One part of purified cinnabar is added to 4 parts of dried leaves of five leaved chaste tree (Vitex negundo) and powdered well. They are rolled in a cloth in the form of wick and smoked for curing the deep wounds and foul smelling ulcers.

Preparation of *Lingarasam* from *Lingam:*

One part of cinnabar powder is added with four parts of the root bark powder of ceylon lead wort (Plumbago zeylanica). and placed in sublimation appliances and burnt. The mercury rasa will stick to the upper portion of the apparatus. This is collected carefully to get linga rasa. This is called linga rasa.

Another method:

Lingam	1 part
Turmeric powder (Curcuma longa)	4 part

The above ingredients are mixed together and rolled in a cloth in the form of wick and the wick is placed in a mud plate.The mud plate is covered by another big mud pot and the wick is burnt. The mercury which is sediments in the upper mud pot is collected out.

Toxic symptoms of *Lingam*

Loss of taste, difficulty in eating and drinking water. Ulcers in the buccal floor, uvula (base of the mouth), inner portion of the tongue , larynx and large intestine, foul odour from the mouth, discharge of viscous, whitish saliva, difficult to speak and burning sensation are the toxic features of red sulphide of mercury.

Antidote:

Nutmeg (Myristica fragrans), cubeb pepper(Piper cubeba), root bark of red cotton tree (Gossypium arboreum) and sugar candy each 4.2 gm. are made into a decoction and administered twice a day for 48 days.

4. *POORAM (RASA KARPOORAM)* (HYDRARGYRUM SUBCHLORIDE-CALOMEL)

All though the calomel *(pooram)* does not find a place in the list of 64 paadanas it is considered as one among them by the medical practisoners. It is prepared by the combination of Rasam and salt

Method of Preparation:

Sulphur 67.2 gm is melted in a mud pot and mercury 336 gm. is added to it and kindled well and there forms a black coloured powder. Brickstone powder is placed upto the half of the level of a pot. Culinary salt (NaCl) -650 gm is placed over it. Mercury sulphur camphor is placed over the salt and sealed with mud pasted cloth. It is burnt for 12 hours with kadakkini. After it is cooled, the Mercurous chloride is found deposited on the upper pot and the same is collected.

Potency: Hot

Taste: Salty

The calomel has got laxative, tonic, antiseptic and diuretic properties, It is also an after excessive bile producer.

When the calomel is taken along with jaggery for seven days, it cures various types of throbbing pains , throbbing pain in the lumbar region, burning sensation, ulcer due to disorders of vatha humour, hepatomegaly, pyrexia, Jaundice, basillary dysentery , dropsy, chronic ulcers, venereal diseases, indigestion, vomiting, diarrhoea, worm infestation, rheumatism , itching, constipation ,scabies etc. It is alos effective in the treatment of headache as explained in the following Tamil verses:

"இடைவாத சூலை யெரிசூலை குன்மந்
தொடைவாழை வாதமாஞ் சோணி -யிடையாதோ
வொக்குரச கர்ப்பூர மொன்றே யளவொடுநல்
இக்குவெல்லத் தேழுநா ளீ."

சசிவன்ன கருப்பூ ரத்தில்
சாதித்த கயஞ்சு வாசம்
பசிகலி தாப சோபம்
பவுத்திரம் பிளவை குஷ்டம்

வசிதரு கிராணி யோடு
வளரதி சார மேகம்
இசிதரு மிசிவு சூலை
யிவைபல ரோகம் போமே."

" திரண்டவா தங்குடல் வாதம்
தீருஞ்சந் நிபதின் மூன்று
மருண்டே குத்து மரையாப்பு
மண்டைச் சூலை கபாலவிடி
பரங்கிச் சூலை பற்கிரந்தி
பக்கச் சூலை யிவை முதல்போம்
இருண்ட மேனி பொன்னிறமாம்
இதுவே கற்பம் இயம்பீரே."

The calomel should be purified in order to remove the impurities and to avoid the toxicity.

Purification of Calomel:

The poultice made of betel leaf (Piper betle) and pepper (Piper nigrum) each 8.75gm. is taken and dissolved in 1.3 litre of water calomel 35 gm. and tied with a cloth and immersed in the liquid from the cross bar and heated. After the water is reduced to ¾ of its volume.The colomel is taken out, washed with water and dried to get it in purified form.

Another method:

Colomel 35 gm. is consolidified in mother's milk for 3 hours and again it is consolidified in garlic oil *(thailam)* for 9 hours. It is takenout as purified.

Before mixing colomel in electuaries, it is consolidified with the juice of mukia maderaspatana *(musumusukkai)* and washed.

POORA PARPAM

The purified calomel is placed in a mortar and triturated for seven days to get the parpam.

Dose: 32-195 mg. If the dose exceeds 130 mg, it may induce diarrhoea.

POORA KATTU

Preparation of Calomel beads:

Calomel -35 gm is soaked in mother's milk for 10 days and dried. It is consoldified by garlic oil *(thilam)* for 9 -hours. 175 gm. of potasium nitrate powder is placed in an earthen plate and the colomel is placed over it and covered with the rest half portion of potassium nitrate powder. The contents of five hen's eggs are poured over it and heated with *Kamalakini* for 6 minutes.The salts melt and catches fire. In the presence of egg the fumigation of salt is prevented. After the salt is completely melted, it is solidified. Then it is allowed to cool and the poora kattu is collected out.

Indications:

Delirium associated with fever, dryness of the tongue ,delirium associated with vatha and constipation

Calomel kattu is given along with linga kattu for curing the vatha diseases.

Another method:

Benzoin and camphor (35 gm each) are triturated well. They are then subjected to kavasa process over 35gm of calomel stone. They are dried and burnt. Kavasa is removed and the resultant material is taken out.

Another method:

Stannum, perchloride of mercury, nitrate of potash are taken in equal ratio and triturated and the cheya neer is collected. Calomel is placed over a mica plate and consolidified by using above cheya neer and placed within the mudar root (Calotropis gigantica) and sealed with mud pasted cloth and put into 1½ height puda and then collected.

RASA KARPOORA KULIGAI

Colomel 21 gm. is soaked in mother's milk for three days. Garlic 84 gm., pepper 126 gm.and betal leaves 168gm. are triturated with betel leaves juice for 15 hours and then rolled into pills like a

unarmed night shade *(sundai)*. Then it is dried in shade and get the *kuligai* for use.

Dosage: One pill twice a day for seven days.

Dietary regimen: Salt and tamarind should be avoided. Cow's milk can be taken once a day. After 7 th day fried salt and dhal can be taken. On 15 th day, head bath should be taken with bishop weeds and then tamarind can be added. Then oil bath should be taken.

Disseases cured: Scabies, syphilis, vulva cancer, penis cancer, chronic ulcer and pit wounds.

Another method of preparation:

Ingredients:

Purified Calomel	17. 5 gm.
Clove (Syzyigum aromaticum- *lavangam)*	8.75gm
Cardamom (Electaria cardamomum)	8.75gm
Sweet calamus (Acorus calamus- *vasambu)*	8.75gm
Cumin seeds (Cuminum cyminum)	8.75gm
Magic nut (Quercus infectoria- *masikkay)*	8.75 gm
Atis (Aconitum heterophyllum- *Adhividayam*)	8.75gm

The above mantioned substances are triturated with the root bark juices of Artemisia nilagirica-*maasi parthiri*, Evolvulus alsinoides-*vittinu kiranthi* for three hours individually. Then corian-der sized pills are made, dried in shade and stored in a copper vessel.If one pill is given with *maantha kudineer* , it cures all types of zy-motic diseases.

POORA KALIMBU

(CALOMEL OINTMENT)

Calomel, limestone and wax are taken in the ratio of 1: ½ : 6 parts and mixed thoroughly.

The paste is useful in the treatment of syphilitic ulcer.

Another method:

Rasakarpooram (4.2 gm) is triturated with 21 gm of cow's but-ter and applied topically in healing of ulcers.

POORA ENNEI

(COLOMEL OIL)

Calomel, cardamom seeds, dried ginger are taken 35 gm each and powdered individually. Castor oil 1400 gm is gradually added to the powder and triturated well and the powder of cardamom seed and dried ginger are added to this mixture

Dose: 14 to 28 ml. It is given once a day in the morning for three days.

Dietary restricrion: Salt and tamarind should be avoided.

Curable diseases: Constipation, zymotic diseases of children, venereal diseases,ulcers etc.,

If the colomel oil is taken along with embelia ribes powder, it removes intestinal worms.

Poora podi:

Peel of Chebulic myrobalan (Terminalia chebula)	35 gm.
Catechu *(Kaaichukatti)*	35 gm.
Plumbi oxidum *(Mirtharsingi)*	35 gm.
Calomel	105 gm

These are powdered well mixed and stored for use.

Use of powder:

The powder is useful in the treatment of venereal ulcer which occurs in the penis and it is also useful as an external application . This powder is also known as *Parangi kesari.*

Another method:

White catechu	35 gm
Camphor	35 gm
Magic nut (quercus infectoria)	35 gm
Alum	35 gm
Calomel	17.5 gm
Plumbi oxidum	17.5gm
Mercury	17.5 gm

The above ingredients are powdered and preserved for use.

Indications: The powder is useful as an external application in the *treatment of venereal ulcer occurs on the penis*

Signs and symptoms of Calomel poisoning:

Multiple red boils may appear on the face, acne formation, ulcers in the chest, mouth and tongue, diarrhoea and dysentery, scrotal swelling and ulcer in the uvula.

Antidote for poisoning:

Black musali tubers (Curculigo orchides)	8.75 gm
Indian penny wort root (Centella asiatica root)	8.75 gm
Root of sessile plant (Alternatheria sessiles)	8.75 gm
Beetle killer (Clerodendrum serratum-*Kandu paarangi*)	8.75 gm

All the above ingredients are mixed and boiled to make a decoction. This decoction is used twice a day for two or three weeks with suitable diet restrictions.

5. *VEERAM (SAVVEERAM)*
(HYDRARGYRUM PERCHLORIDE)

Perchloride of mercury was first used as a therapeutic agent for venereal diseases during the middle of the eighteenth century in western countries. Buit for many centuries the perchloride of mercury has been used in India for the treatment of various disorders.

Method of preparation:

Colomel	80 parts
Culinary salt	80 "
Copper sulphate	40 "
Alum	20 "
Potassium nitrate	20 "
Fuller's earth	20 "
Sulphate of iron	10 "
Ammonii chloridum	5 "

These ingredients are taken and triturated well and placed in a bottle its mouth is closed and sealed with a mud pasted cloth and burnt. After cooling, the perchloride of mercury is found to be deposited over the lid as a thick layer.

Methods of purification and detoxification:

Perchloride of mercury is as such quite toxic and it should be used only after purification and detoxification.

Perchloride of mercury 35gm is consolidified with pepper decoction (Piper nigurm) for 6 hours. Then it is buried within the pepper poultice. Sodium chloride 650 gm and camphor 35 gm are mixd well and kept in a mud pot in which the above poultice is buried and burnt for some hours with low intensity fire to get the purified form of perchloride of mercury.

Other Methods:

Method I :

Camphor is mixed with tender coconut water and placed in a mud pot.Perchloride of mercury is tied in a cloth and soaked in the pot without touching the water and the pot is burnt for half an hour.

Method II :

Alum 35 gm and Camphor-35 gm. are powdered well and mixed together. Perchloride of mercury 35 gm is taken single piece and consolidified by the above mixture gradually. Perchloride of mercury is carefully watched not to become fume.

Method III :

Perchloride of mercury is soaked in mother's milk in a porcelain vessel. It is insolated till the milk is completely dried to get the purified form. Cow's milk can be also used instead of mother's milk.

Method IV :

Bitter gourd (Momordica charantia) is opened and a hole is made. perchloride of mercury is placed in the centere of the hole and closed, tied with a rope. Tender coconut water (or) lime juice is poured in a mud pot. The above tied material is suspended in the pot without touching the water and burnt for one hour.

Properties and actions of perchdoride of mercury:

Potency: Hot

Taste: Bitter

It has got body improving tonic and antiseptic and ulcerogenic properties.

Uses: Perchloride of mercury is used to cure the following diseases:

Gastric ulcer, leprosy, severe vatha diseases and morbid growth of flesh, Throbbing pain associated diseases , venereal diseases , bubo in the groins occurs to the female and male due to forcefulness of sexualy contact as explained in the following Tamil verse.

"குன்மமொடு குட்டங் கொடியவனி லத்திரட்டு
துன்மாங் கிசப்பெருக்கஞ் சூலைநோய்- வன்மையுறு
காமியப்புண் ணாதியநோய் கண்டாற்சவ்
வீரனெனுஞ் சாமிநா மத்தையுச் சரி."

This is also used for various types of eye diseases.

Dose: 2 to 4 mg. Dose above 4 mg will be toxic.

Method of administration of *Veera Jayaneer:*

The perchloride of mercury and Ammonii chloridum (650 mg each) are taken and dissolved in 500 ml. of puritied water and administered upto 30 drops.

MAHAVEERA MEZHUGU

Group-A

Perchloride of Mercury	35g
Drumstick tree bark juice	1.3 litre

Group-B

Calmel	35gm
Cinnabar	35 gm

Ceylon leadwort root bark (Plumbago zeylanica)	210 gm
Dried ginger (Zingiber officinalis)	35 gm
Black pepper (Piper nigrum)	35 gm.
Long Pepper(Piper longum)	35gm
Honey	Required quantity
Mother's milk	Required quantity

Group- C

Saffron (Crocus sativus)	4.2 gm
Bezoar orientale (*Korosanai)*	4.2 gm
Crude camphor *(Pachchai karpooram)*	4.2 gm

Perchloride of mercury is consolidified by the drumstick tree bark juice through heating and powdered. The 'B' group drugs are also powdered.

The A & B group powders are mixed well and triturated with the Ceylon lead wort root bark with the required quantity of honey and mother's milk. Finally group C drugs are added and triturated well until it becomes waxy consistency and stored.

Dose: Equivalent to the size of 1-2 pulse grain

Diseases cured: Vatha diseases and venereal diseases.

Dietary restriction: Milk and rice.

Note: On Chronic Vatha diseases croton contained *Veera mezhugu* is given as laxative.

VEERA MAATHIRAI
(THIRI THODA MATHIRAI)

Purified Veeram (Perchloride of mercury)	.....	1 Part
Pepper Seeds	.....	4 Parts

Grind the both using pepper decoction and make the paste into pills of pepper size and dried. If given with suitable adjuvants the

diseases like fever caused due to the derangement of three gunmams will be cured.

Instead of milagu decction, Nochi Surasam(Vitex negundo) is also used by which running nose and shivering fevers are cured.

SAVVEERA CHENDOORAM
(Hydrargyri perchloride)

Take equal weight of Saveeram and borax (Vengaram), pulverize them and heat by putting it in a mud pan to get the chendooram.

If given in sufficient quantity it cures, fever, delirium, blabbery, severe vatha diseases, cholera, soolai etc.

SAVVEERA KATTU

Take 35 gms. of Camphor and put it in a mudpan (Agal) and put 35 gms.of Savveera upon it. Again put 35 gms. of Camphor over it and put into Lagu puda process using mud cloth, and get the Savveeram in Kattu form.

VEERA RASA PARPAM

Veeram (Perchloride of mercury)	.....	10 parts
Cast Iron Powder	.....	2 parts

Grind these two, by which rasam will come out, place the rasam in a mud pan and add salt. Then put into mud-cloth puda process by which we can get white fine powder, the parpam. Scrap the parpam and bottle up.

Dosage : 488 mg or required minimum quantity with jaggery.

VEERA NEER
(For Local application)

65 mg.of Veeram is mixed up with 240 ml. of water to get the Veera Neer. It is used as a dysinfectant and for cleaning the ulcers.

VEERA KALIMPU

4.2 gm. of Veeram is ground with 17.5 gm.of butter and the paste is used to cure urticaria and to apply on the ulcers.

VEERA KULAMPU
(AMIRTHA VENNAI - AMIRTHA MEZHUGU)

5.1 gm. of *Savveeram* is pulverized and ground with 350 gm. of butter for 6 hours, and cleaned with water.

It can be applied on the ulcers like Cancer or Carbuncle of chest

Clean the ulcers using the water boiled with tamarind leaves.

It is also used as local application on all swellings, boils etc.

It cures burning sensation in external piles.

As the Amirtha mezhugu contains more quantity of butter than Veera Kalimbu it cures the inflammation.

JAYAVEERA RANA SINGI KAYIRU

Boiled oil		
Vengaram(borax)	....	4.2 gm.
Veeram((Perchloride of *mercury*)	....	4.2 gm.
Black gram flour	....	8.4 gm

Grind these in a *Kalvam* adding rain water and make pills in wax stage and dry them in shade. The colour may change from white into brown and which is harmless. It should be used after one year.

Adjuvant : Pure water

Usage : Ulcers, ringworm, pimples, syphilis, scabies, carbuncles, cancer of penis, piles,scrofula,veneral ulcer,anorectal syphilis and different kinds of eye diseases.

Signs and Symptoms :

The toxic symptoms of mercuric chloride are :

Taste of verdigris	Ptyalism
Ulcerative stomatitis	Ulcerative laryngitis
Ulcerative gastritis	Dysphagia
Vomiting	Ulcers in the stomach
Watery diarrhoea	Dysentery
Puffiness of face	Pharyngitis
Fissures on the skin with serous fluid oozing	Throbbing pain in the hypochondral region
Morbid thirst	Unconsciousness
Hiccough	Convulsions
Syncope	Death

Antidotes:

1. 20 ml. of Tribulus terrestris juice should be given to the victim in the morning and evening daily.
2. Paste of the Indigofera tinctoria root bark in the dose of a size of Solanum pubescens, dissolved in 80 ml. of lukewarm water should be consumed twice daily. Decoction of the above drug is also given as an antidote for the poison.
3. 20 ml. of juice of Vernonia cinerea consumed twice daily which also acts as an antidote.
4. This poison can be neutralised by drinking coconut toddy. Since the period of treatment is not mentioned, all the above prescriptions can be continued til the toxic effects disappear.
5. White yolk of the egg (unboiled) mixed with water or milk should be given often.
6. Tender coconut water also neutralises the toxicity of Mercuric chloride.

III. PAADAANAS

1. *ANJANAKKAL*

SULPHIDE OF LEAD
(PLUMBI SULPHURATUM)

This is bluish white in colour and found as sheets (layers). It can be easily broken as sheets (layers) and it melts when burnt. It is evaporated with high temperature. It dose not dissolve in water. When high temperature, it does not dissolve in water. When triturated, it becomes black in colour. This is used by women as eye brow eye lashes. It is considered that it protects the eye from the sun. It is generally not given internally. It is given to horse for giving strength especially to race horses.

There are six types of Lead Sulphide:

1. *Surothanjanam*
2. *Savveeraanjanam*
3. *Neelaanjanam*
4. *Pushpaanjanam.*
5. *Rasaanjanam*
6. *Rakthaanjanam*

Of these, none is easily available for use except Neelaajanam.

1. Surothaanjanam:

It resembles as mushroom (Mushroom grown on the ant hill) in structure slightly black in colour, looks like red ochre.

2. Savveeraanjanam:

Savveeraanjanam is smoke in colour. Savveeraanjanam and surothanjanam are purified by boiling in the tripala decoction and juice of trailing eclipta (Eclipta prostrata). Since five sulphide of lead are not available the following compound mixture is used.

Tree turmeric decoction and goat's milk are equally added and boiled till semi -solid consistency is attained. This preparation is used in the manufacture of compound medicines.

3. *Neelaanjanam*

It has got the following properties.

1. Tonic
2. Antipyretic
3. Demulcent
4. Emetic
5. Hyperhidrotic

It is cold in Potency.

"சந்நிசுரம் மேகம் ஷயதாகம் நேத்திரநோய்
வன்னிரச வேகம் மறைவதன்றி-மன்னுடலம்
விஞ்சு குளிர்ச்சியோடு வீறழகு காந்தியுமாம்
அஞ்சனக் கல்லுக் கறி"

"வாரிறுக்கும் பூண்முலையாய் வாய்த்தநீ லாஞ்சனத்தால்
நீருறுத்துங் கண்ணோய் நிலைகெடுங்காண் - பாரினிலே
எல்லாச் சுரமும் இரத்த பித்த தோஷமுதற்
பொல்லா அறுபுண்ணும்போம்."

Plumbi sulphuratum cures the following diseases:

Delirium, pyrexia, venereal diseases, pneumonia,thirst,eye diseases, *rasa thodam* (minimum toxic), hemorrhage and ulcers.

It keeps the body with coolness ,brightness and beauty.

Rasaanjanam cures Opthalmic diseases, penis ulcer and ulcers.

"அரியர சாஞ்சனத்தால் அம்புவியில் உள்ள
வரிவிழி நோயெல்லாம் மறையும் - மருவி
வருகா மியவிரணம் மாறுமே புண்ணாறும்
ஒருமா மயிலே உரை."

Purification of *Neelaanjanam:*

1. The crude *neelaanjanam* is powdered and triturated with lime juice and kept in the Sun light for one day to get the purified form.

2. It is Soaked in juice of Pomegranate (Punica granatum) to get the purified form.

Uses of *Neelaanjanam:*

Neelaanjanam (130gm) with Ceylon Ironwood (Mesua ferrea) and opium (Papaver Somniferum) is useful in the treatment of diarrhoea and dysentery.

It is applied externally after grinding in sour water with rock salt, Saussurea lappa *(Costum)*, Embelia ribes *(Vaaividangam)*, Cassia tora *(thagarai)* and Barassia juncia (mustared) for leprosy attended with red or green circular boils or ulcers *(mandala kutam)* and pruritus.

It is given along with sugar and ghee to control excess *pitha* and with dry ginger (Zingiber officinalis), Chebulic myrobalan (Terminalia chebula), and jaggery for pulmonary diseases.

Thanga parpam with *Neelaanjanam* is given with butter, sugar, honey in a dose of 130 mg for tuberculosis.

It gives strength to the body.

NEELAANJANA PARPAM

Sulphide of lead	1 part
Deer horn	2 part

Thease are placed in a curcible and burnt mildly without forming smoke. The substance that settles at the bottom is placed in another crucible and burnt for 2 hours gradually intestine the heat until it becomes whitein colour.

The material which settles at the bottom is taken out and powdered well and bottled up for use.

Dosage : 195 mg -390 mg.

Usage : The *parpam* is useful in the treatment of fever, rhematism and chronic skin diseases.

NEELAANJANAM
(EYE BROW DYE)

Ingredients:

Lead sulphide	35 gm.
Sugarcandy	35 gm.
Gold thread thalic	4.4 gm.
Saffron (Crocus sativus)	0.525 gm.
Powder of glass crystal	0.525 gm.
Crude camphor	8.75 gm.

These ingredients are powdered and triturated with the juices of bael tree leaves (Aegel marmelos) - *vilva* leaves juices, rough bryony (Mukia maderas patana - *musumusukkai),* Spreading hogweed (Boerhaavia repens -white *Saantaranai),* palmyra leaf stem (Borassus flabellifer),Trailing eclipta (Eclipta prostrata -*karisalai),* Indian rose bay (Tabernaemontana divaricata- *nandippoovu chaaru*) for 6 hours. They are then dried, triturated with honey to get semi -solid consistency of kuzhambu and applied over the eye brows in the treatment of cataract and corneal opacity.

"கருங்கல் கண்டொவ் வொன்றுதொடி
    கனகச் சகலை துருக்கமலர்
பரும்படி கவ்வெளை பனிமீனாம்
    பகர்முறை நிட்கம தொன்றேகால்
வருமை யரைக்கா லஃதையரை
    வளவில் வையிரு குரக்கத்தம்
தருவெண் சாரணை பெண்ணைமடல்
    சாலைச் சேப்பூ வரையிரண்டே!

சாம மரைதனிக் காயவிடு
    தன்னை யளிக்கோ டன்னிலரை
ஆமஃதேகுழம் பாயினெடு
    வதுகண் ணிடுகண் பூபடலம்
நாம முத்துக் காசபிலம்
    நன்றாய்த் தீருஞ் சின்னாளில்
நாம மஞ்சனக் கண்மையென
    நாட்டி னாம்ரெம் முனிவரரோ."

ELI PAADAANAM

(RAT POISON)

The sulphide of lead is also used as a rat poison ; it is mixed with the food materials for this purpose and kept in the areas where rates are found.

The rat *paadaana* is not used as such. But in combination with other drugs it is useful in the treatment of the fever *raama paanam* .

Take *lingam* 2 parts and purified rat pashana (3 parts) are taken. They are triturated in *marul oomathai* juice (Datura metel) for three days. Pills are made and dried. The pill is given with mother's milk or with sugar for the treatment of fever.

The method of purification of rat poison is same as that for white pashana

Diet regimen: Rice gruel and milk should the given in excess.

2. *GANDHAGAM*

(SULPHUR)

Sulphur is bitter and astringent in taste. Its actions are laxative, tonic and antiseptic. It also increases the bile fluids. It increases various secretions of body including skin . When used in high doses, it causes diarrhoea. It is excreated through sweat, milk, urine. It is considered that four types of sulphur are present.

1. White coloured sulphur that cures all diseases.
2. Red coloured sulphur
3. Golden yellow coloured sulphur
4. Black coloured sulphur

In addition, gooseberry sulphur and stick sulphur *(vaana gandagam)* have been mentioned in most of the text books of ancient siddha medicine. Gosseberry sulphur is the one which is often used in medicinal preparations. Four other types of sulphur have been mentioned in the sixty-four *paadahanas*:

1. *Pirappu Gandhagam*
2. *Vaippu Gandhagam*
3. *Kozhi thalai Gandhagam*
4. *Vaana (stick) Gandhagam*

NELLIKKAI GANDHAGAM
(GOOSEBERRY SULPHUR)

This is considered to useful in the treatment of 18 types of skin diseases, liver enlargement, abdominal distension, eye diseases, chronic venereal diseases, chronic diarrhoeas, gastric ulcer, poisonous bites, fever due to *vatha*, chronic dysentery etc.

"நெல்லிக்காய்க் கந்திக்கு நீள்பதினெண் குட்டமந்தம்
வல்லை கவிசைகுன்ம வாயுகண்ணோய் - பொல்லா
விடக்கடிவன் மேகநோய் வீறு சுரம் பேதி
திடக்கிரகு ணீகபம்போந் தேர்."

VAANA GANDHAGAM
(STICK SULPHUR)

This sulphur is useful to control the pathogenic micro organisms in the blood. It is also useful in the treatment of chronic joint disorders, scabies, asthma, heart attack, cough, anorectal diseases, leprosy etc.

"வாணக் குழாய்க்கந்தி வாசனையைக் கண்டவுடன்
காணக் கிருமி சொறி காணாவாம்- தோனும்
பெருவியா திக்கூட்டம் பேருமத னூலின்
மருவியா முங்கொடியே வாழ்த்து."

"மாதர் மகவை வளர்ப்பதுபோ லேயுடம்பை
யாதரவா கத்தேற்றி யாக்கையினால் - மீதாக
மேவி யடர்நோயின் வெப்பத்தை மாற்றுதலாற்
றேவியுர மென்பதுடல் தேர்."

Purification and detoxification of Sulphur:

The exudate obtained from outer shell of tamarind fruit (210 gm) is collected and placed in a mud pot. Old rice water fermenta-

tion, sour butter milk and the juice of mushroom (210 gm each) are also poured in the pot. The pot is covered with a cloth over which 35 gm of sulphur is placed and the pot is covered with a lid. The pot is heated for about 6 hours; the purified sulphur settles down.

Other methods:

1. The *kalkam* of Lawsonia inermis is mixed in cow's curd and placed in a mud pot. The mouth of the pot is covered with a cloth. Sulphur is placed over this cloth. The pot is covered with another pot and burried in the ground. The outer pot is subjected to *puda* with five dung cake. The sulphur which melts and settles down is collected. This procedure is repeated for 7 times.

2. Sulphur is placed in an iron spoon. A small quantity of cow's butter is added and the spoon is heated till the butter melts; this mixture is immersed in inclined position in cow's milk. This procedure is repeated for 30 times to get purified sulphur. Each time, fresh milk is to be used.

3. Sulphur is melted in the stemp juice of plantain tree for ten times to get it purified.

Dose: 650 mg- 1900 mg.

At doses more than 4.2 to 12.6 gm, it causes purgation.

GANDHAGA PARPAM

Sulphur (35 gm) is taken and triturated with the juices as shown in the following table:

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1.Whole plant Juice of Momordica charantia *Kombu paagal*	140	8	7	1	40

2. Flower Juice of South Indian Mahua (Madhuca longifolia) *Iluppai poo*	140	7	6	1	35
3. Juice of Trailing Ecliota (Eclipta prostrata) *Ktreearisalankanni*	105	6	5	1	30
4. Whole plant Juice of Barmuda grass (Cynodon dactylon)	105	5	4	1	25
5. Whole plant Juice of white variety Indian liquorice (Abrus precatorius)	70	4	3	1	20
6 Whole plant Juice of Black musali (Curculigo orchides) *Nilapunai samoolam*	70	3	2	1	15
7. Juice of *karumpullanchi* (Phyllanthu reticulata)	35	2	1	1	10
8. Whole plant juice of ficus benghalensis	35	1	1	0	5

The mixture is dried, covered with mud pasted cloth and then put to *puda* process.

The preferred dose of the *parpam* is *1/8* size of a dhall.

Suitable land for taking medicine:

Marutham - Suitable

Neithal - not suitable

Kurinji, Mullai - mediocre *(Mathimam)*

The preferred period for taking this medicine is all months except *Margazhi* (mid December to mid January). It is considered that if the parpam is taken in a proper dose and time as said above, diseases caused by the derangement of the three humors and other

disorders caused by them are cured.

"சத்தி பீசத் தாவளப் பொடிநிறை
யுத்தம மாதி யோரிரு நாற்பால்
வினைமதி யாகா விதிமற் றுளசில
வாருணத் திணைமுதல் வரைவன மத்திமம்
வாருறு நூன்மைய வாய்த்திடும் வளிமுத
லாகிய நோய்க்கண மடைக்கலப் படுமுனம்
வேகிய மருத்துவர் வெருக்கொளச் சென்றது
நோய்ப்பகை யாளரும் நொடிந்தனர் சிதறி"

Adjuvant		Disease
1.	Toddy	Sprain due to kapha
2.	Musrtard juice	Heart attach
3.	Ginger juice (Zingiber officinalis)	Asthma
4.	Whole plant juice of (Mangifera indica)	Delirium
5.	Whole plant juice of raw turmeric (Curcuma longa)	Pyrexia
6.	Ghee	Kapha
7.	Butter milk	Ascites
8.	Milk	Anaemia
9.	Curd	Vomiting
10.	Butter	Hyperasthesia
11.	Water	Tuberculosis
12.	Chebulic myrobalan juice (Terminalia chebula)	Parkinsonism
13.	Pomogranate juice (Punica grantum)	Emaciating diseases
14.	Hot water	Leprosy

"சத்தியுர முக்கால் சனியரிவை வல்லைவெண்மை
சத்தியுர முக்கால் சனியரியை - சத்தியுர
மாரி கடுகலமா மஞ்சணெய்மோர் பாலளையை
மாரி கடுகலமா வார்."

"தேவி யுரமென் றுலகறியச்
செப்பா நின்ற கெந்தகத்தூள்
சிறிது பூட்சி யெனுமரணிற்
செரியா முன்னார்ப் பிணிவருக்கப்
பாவி யுரமு மடலிகலும்
பாறுமி தன்றிப் பெரிதான
பாழி வரைநே ராகுமடல்
பருவ முயற்சிப் பைங்கூழா
மேவி யுரமா முனிவர்குழா
மிழற்றா நின்ற வுவமியமா
மெய்யிற் பெரிய பிணியரந்தை
மெலிவார் கைகால் குறைவுவரா
வோவி யுரகத தோலினிற்றீ
தொழியு மழியா துயிர் நிலையே
யுண்மைப் படியே யாகுமிதை
யுரையா ரேனோ ருலகினிலே."

(Maapuraana Peunool Vakatam.)

பூமலி நறுந்தேன் வாய்மடுத் தளிக்குல
மிசைப்பா மிழற்று நசைத்தா மரைக்கோன்
விதிவழிச் சனிக்கு முதுமறை யுலகின்
மானிடப் பேய்கட் கேனைய வினைக்கணத்
ததிகமா பெருநோ யாவது முற்பவத்
தலவனைப் பதமுறித் தட்டயின் றமையா
னல்வினை யிப்பவ நண் ணுமே லாங்கு
வனமலி மரைமலர் மானங் குலியெலா
மனவென வீந்துமா மழுங்கியீ டின்றி
யரந்தைநோ யினத்தையே யாக்கியா யுளர்க்குமேல்
பரந்தப வியற்றியும் பனிப்பினை யளித்து
மருந்தனு பானமா மணிமந் திரவிதி
யாவுமெய் தாநெறி யாக்கிய புரிநனிப்
பாவியி வியற்றியும் பனிப்பினை யளித்து
மருந்தனு பானமா மணிமந் திரவிதி
பாவியி லெறுழ்வலிப் பரங்கெடுத் திடுமா
லாகிய வினைக்கிணை யாவதொன் றின்றிப்
போகிய வாதனைப் புகரளச் செய்வான்

சத்திபீ சப்பொடி தனைப்பிர மாண
புகுத்ததி லோததி பொண்மை யினாடி
வகுத்த நுன்மைப் படிவருமனு பான
நற்செய லான நவையறுத் தொளிரும்
வற்சர மின்றி மிரபுளி வழாத
வுட்டணோ தகமென வுரைகொடு மீறிய
வட்டிடு புனலினி லனுபா னித்தயை
யுண்டுமென் யதிப்பினி லோங்கிய கட்டளை
விண்டிடாக் கடைப்பிடி விதிவிலக் கறிந்து
நடப்பவல் புடவியி னன்னெறி யவரே."

(சங்க மதுமலர்த் தண்டார்ப்பதுமர்)

The role of sulphur in the treatment of psychiatric illness *(Piramai)*:

Piramai is of three types. They are.,

1. Vatha piramai

2. Pitha piramai

3. Kapha piramai

1. Treatment of *Vatha Saathiya Piramai:*

The rasa of clove (Syzygium aromaticum), juice of ginger (Zingiber officinalis) and honey (8.75 gm each) are mixed together. *Gandhaga* parpam is then added to them and this mixture is administered internally and also applied over the vertex of the head. This is repeated for nine days and then bath is taken with soapnut powder and hot water.

"அரசனென வருகின்ற வாதவினை
யுட்டணத் தண்மையது கண்மணியைநே
ராகியதில் வெயிலைநிக ரானசுர மீறலா
லையதி லுதித்த வளவி
லொருசரச மதிலாகி வரன்முறைக
ளில்லாம லொவ்வுவதி லாமாற்கமும்
உணவுபசி மந்தமு மதிகமா
கியதுயிலு மொப்புரவி லாவமைதியுங்
தருமதனை யாமாத்தி யர்சாத்ய
மென்பது முதாரணப் படியாமரோ
தள்ளுமுறை யஃதையெப் படியென்னி
லாயுண்மறை தன்னிலோ தியவண்மையே
யுரிசையெறு மிஞ்சிரச மிலவங்க
மதுமும்மை யோதுமிவை யனுபானமா

முண்மையிதை யேபூச னெற்றி முற
சிரமீதி லொன்பது தினத்தினளவே"

2. Treatment of *Pitha Asaathia Piramani:*

Juice of basil (Ocimum sanctum), Cumin seeds (Cuminum cyminum) and palmyra toddy are mixed together. *Gandhaga* parpam (9 gm) is then added. The mixture is taken internally for 18 days and also applied over the vertex of head. Bath is taken with triturated pulse followed by diet containing pulse.

"அமைச்சனென் றுரைக்கும் பயித்தியப் பிணியை
யார்கொலோ தவிர்ப்பவ ரடங்கா
தாயினு மொருசா ரறைகுதுங் கேண்மோ
வானனம் விழிசிவப் பாகும்
நமைச்சலு நற்றுயி விலாமையும் பசியும்
நாடொறுந் தாகமும் பயமும்
நகையுமோர் கோரமாம் வசனமு மருட்சி
நயனமும் நடையுமே லுண்டாம்
குமைக்குமப் பிணியினை யொழிப்பதற் குபதை
கூறுதும் போசனக் குடாரி
கோவிந்தன் மாலையுடன் பனங்கள்ளுங்
கூட்டிமே லுண்டதே பூசில்
நாமைக்கொலு மியம னிஃதென்ன வோடு
நலியெலா மக்கணத் தாங்கே
நாதரு மிதையே யோதினாரிதனை
நானுமிம் முறையுரைத் தனன்கேள்"

3. Treatment of *Kapha Maarana Piramai:*

Juice of greater galanga (Alpinia galanga), juice of long pepper (piper longum) root and country arrack are used as adjuvants to *Gandhaga* parpam and given tor 27 days. Bath is taken with cake powder of mahua (Madhuca longifolia).

"கபப்பயித் தியத்தி னனலை யார்கொலோ கணிப்பா
ருபத்திர வத்தினை ராட்டமுங் காமனு மொழிக்கும்
விபத்தினா லிதையே மெய்யிற் பூசுதல் விதியே
சுபத்தையீ தலாதெ வையுமே லளிப்பது சுகமே."

Note: If sulphur is used for mental disorders cases milk, sugar,ghee,toddy, chillies and copulation should be avoided.

SARVA VIDA THODARI KULIGAI

(Anti- toxicant Pill)

Gandaga parpam	2 parts
Three Pungent (*Thiri kadugu)*	¼ part
Gossypium herbaceum bark	¼ part
Ficus bengalensis bark	¼ part
Deer's horn	¼ part
Cinnabar	¼ part

The above mentioned ingredients are mixed with cow's ghee (4 parts) and triturated for 8 days and pills are made and dried in shade.

பாரப்பா தேவியென்னுங் கெந்திச் சுண்ணம்
　　பண்ணவல்ல மாத்திரைகட் கெண்ண மெட்டே
யாரப்பா விதுபுரிவார் புரியி னன்மை
　　பாருமடா சந்தேக மணுகி டாது
சேரப்பா முக்கடுகு மான்கொம் பாதி
　　செகமறிய வாச்சியமுஞ் சேர்த்துக் கொண்டு
நேரப்பா வறிந்தரைத்து நன்மையாக
　　நிதியெனவே யாயுளர்முன் னிலைத்தி டாயே"

(Bogar 300)

This pill is considered as useful in the treatment of poisoning such as...aconitum ferox (naabi), white arsenic,opium (Papaver somniferum), snake bite, drowning, STD etc.,

"மூன்று நாலுவிட மென்ற தாகமொரு
　　மொத்தமான பிணிவற்குவா
லான்ற தானவளி யீன்ற தேகமிசை
　　யான நாவிமுதன் மூன்றுமே
தோன்ற லாலுநலி நீண்டபோதுகுண
　　தோட மான நவபேதமும்
ஏன்ற நாகமுதல் மூன்று தோடமிவை
　　யேக மானதிவை யோகமே"

"பன்னிரு வகைபெரு முன்னிய பருவர
லினமிவை முதலென நனவுறு வளிமுத
லாகிய பருவர லண்மிய வுயிர்நிலை

யேகிய நாபியி னாலுறு விடமுறப்
பெறுமொரு நலிவரப் பெற்றதான் மேன்முறை
செறிவுறு மொன்பது தீவினை வகையொடு
பொறியர வுருவிடப் போக்குமேன் மீறிய
பெண்போ கப்பிணி நண்பயப் பிணியோடு
பன்னிரு வகையெனப் படருறு மிடரென
வந்தடர் தானையு மறவரு மிறுதிசெய்
காலனிற் காந்தது கனலெனக் கன்னல்
வேலென பற்பல வினையமா விளைத்துழி
நால்வகை யாணமு மேலணிக் காப்பும்
பலவனைக் கண்டுழி பஞ்சினி லிரியவாங்
கெய்திய மீளியை யொய்தினிற் கண்டுழிக்
கவன்ற நெஞ்சினர் கவன்றவா னனமென
பங்கயங் குவியப் பொங்கொளி கான்று
நெடுமா லுந்திக் கடிமலர் பூத்தெனப்
பின்னருங் கவினுறு முன்னிய கங்குலில்."

Sarva vida thodari kuligai is also used in the management of following poisons.

Name of the poison	Adjuvant	Curable diseases
1.Aconitum ferox	Mustard leaf juice	Vatha body *(Samighala rogum)*
	Whole plant juice of Ceylon leadwort	Pitha body *(kavaalaa kaala rogum)*
	juice of milk hedge	Kapha body *(Maliniyaaga Kaala rogam)*
2. Arsenic trioxide	leaves juice of Indian cadaba	Vatha body *(Sandikkaala rogam)*
	leaves juice of Indian Aloes	Pitha body (Namika kalarogam)
	leaves juice of Basil	*(Aariyaa kaala rogam)*
3. Opium	leaves juice of basil	Vatha body *(Ravuthiraa kaala rogam)*
	Bitter gourd juice	Pitha body *(Kaalanthaka kaala rogam)*
	leaves juice of sweet flag	Kapha body *(Thunzhukaa Kaala rogam)*
4. Snake bite	Juice of cassia aureculata	*(koratherisana kaala rogam)*

5. STD	White variety of Indian jequirity	*(Vikaaraa kaar rogam)*
6. Phobia	leaves juice of Feronia limonia *(narivila)*	*(vikada kaala rogam)*

Dietary restriction :

Tamarind, ash pumpkin, butter milk, alcoholic beverages, old rice water fermentation and sexualy activity are to be avoided. Salt can be added.

Other methods of preparation of sulphur parpam:

1. *Gandhagam*	.... 175 gm.
white variety onion juice	.... 175 gm.
(Allium cepa)	
Ginger juice (Zingiber officinalis)	.... 175 gm.
Terminalia Arjuna bark ash	.... 1 litre
- *Maruthampattai* ash	

(or)

Tamarind bark ash
(Tamarindus indicus)
- *Puliyampurani* ash

Sulphur is triturated with onion juice for 15 days (daily fresh juice should be used). Subsequently it is triturated with ginger juice for 15 days. Cakes are made and dried.

2. Sulphur is consoldified with Physic nut latex Jatropha curcas white variety for 3 hours and triturated with above latex for 2 days. Cakes are made and dried and sealed with mud pasted cloth and put into *puda* process with 5 cow dung cakes.

Dose :130 mg - 260 mg.

Adjuvants : Honey and ghee.

Indications : Venereal diseases, skin diseases.

3. Sulphur (35gm) is pasted by mudar latex (Calotropis gigantea) upto 1/2 inches thickness and dried. Again it is soaked in

the latex. It is kindled in the ash of red rough chaff plant. One litre of red rough chaff plant ash is placed in a flask. The sulphur is then placed in the flask. The flask is covered with mud pasted cloth and put to *puda.* The *parpam* is then taken out after removing from the ashes.

"தேவி யுரத்தைச் சிவப்பாக்க வாமணக்கு
தேவி யுரத்தை திருக்குவளை - தேவி
யருக்க முறைப்படியே யாறுமையா றாக்கி
யருக்க முறைப்படியே யாம்."

Preparation method of *Gandhaga Chendooram* :

Purified sulphur (35 gm) is triturated with following juices (each for 5 days).

1. Castor oil plant juice (Ricinus communis)
2. Thick leaved lavender (Coleus aromaticus)
3. Pergularia extensa juice (*Uthamani*)
4. Water Lily (Nymphaea stellata)
5. Cedrus deodara juice
6. Calotropis gigantea leaf juice.

Thus after 30 days of triturating, cakes are made, dried, covered with clay packed cloth and put to *puda* process to get the *chendooram.*

"கெந்திச் சிவப்பின் கிரமத் துறைகெட்டி
முந்திச் சிதமான மூலி வகையாறு
மிந்தச் சகந்தி லியற்றிப் புடஞ்செய
விந்தைக் கிணையாய் விளங்கு மொருதிக்கில்."

Adjuvant	Disease
1. Sugar	Convulsion causing *(Dhanur vatham)*
2. Water	Fever
3. Curd	Pitha disease
4. Juice of leucas aspera	Delirium due to toxicity
5. Juice of nelumbium speciosum	Blabbering

6. Toddy	Faults of any of the three humours
7. Juice of ocimum sanctum	Pulmonary diseases
8. Honey	Fatigue
9. Jaggery	Vomiting,ulcer
10.Sugarcane juice	Pyrexia due to faults of any of the three humours
11.Ghee	Asthma

Other methods:

1. Purified sulphur (350 gm) is triturated with juice of Indian aloes for seven days. Iron powder (140 gm) is triturated with the juice of bastard leaf for seven days,cakes are made and dried and placed in *kugai*. Now the sulphur is placed over the cakes and the *kugai* is covered with seven layers cloth. It is then blown and dried in a furnace. The *chendooram* is then collected after cooling.

Dose: 130 - 260 mg.

Adjuvants: Honey and ginger juice

Curable diseases: This *chendooram* will be useful in the treatment of jaundice, anemia, dysentery, indigestion and abdominal distension.

2. *Gandhaga* chendooram can also be prepared by using the ingredients such as convolvulus turpethum *(Sivathai)* and clerodendron phlomoides *(Thazuthazhai)*.

GANDHAGA MEZHUGU

Purified sulphur is first triturated with white onion juice (Allium cepa) for 5 days and then with ginger juice (Zingiber officinalis) for another 5 days. When it attains waxy consistency, it is stored in bottles.

The *mezhugu* is useful in the treatment of polyuria, scabies, skin diseases and anorectal diseases.

Dose : 260 mg - 390 mg.

Another Method :

Sulphur 140 gm. is triturated with juice of garlic for three days. It is then triturated with radish juice for three days to get the mezhugu. This preparation will be uesful in the treatment of syphilis and deep seated pain.

"நெகிழ்ந்த நெல்லிக் கந்தகத்தை
நேரே நான்கு பலம்வாங்கி
உகந்தீ ருள்ளிச் சாற்றிட்டே
யோர்முந் நாளுந் தானரைத்துப்

புகழ்முள் ளங்கிச் சாறிட்டுப்
பின்னு மூன்று நாளரைக்கத்
தகர்ந்த மெழுகு தேனிற்கொள்
தாறு கிரந்தி சூலையும்போம்."

GANDHAGA MAATHIRAI

(Sulphur pills)

Sulphur, Indian aconite, pepper, *sootham* (sour mango) and possunai seed are taken in equal quantities. They are triturated with lemon juice and small pills are made to the size of green dhal, dried in the shadow. The pills so prepared will be useful in the treatment of chronic fever.

"கந்தி நாபி கறிசூதம் பூசுணை
தந்த வித்து சமனெடை தாக்கியே
யந்த மாகப் பழரசத் தாட்டியே
பந்த மாகப் பணிப்பய றுண்டையே.
உண்டை செய்து நிழலிலுலர்த்திப் பின்
கொண்டி டாயநு பானங் குறித்ததில்
பண்டை யான பழஞ்சுரம் பாறுமே
கண்டி டாயிது கந்திக் குளிகையே."

GANDHAGA THAILAM

Sulphur, potassium nitrate and arsenic di sulphide (35 gm each) powdered. Ammonium chloride and perchloride of mercury (2.5 gm. each) are then added. They are then triturated with cow's butter (140 gm) to get the *sudar thailam*.

Dose: 244 mg. Twice a day for 10 days.

Adjuvant : Sugar

Curable diseases: Leprosy, eczema, ulcers, leucorrhoea, diseases of *vatha* and abdominal disease, tuberclosis and *gunmam.*

Note : Care should be taken that potassium nitrate and arsenic disulphide should not be triturated together as they will burn with explosion. Hence, they should be triturated separately and then mixed with butter.

"தயிலங்கேள் கந்தகமும் வெடியுப்புஞ் சிலையுந்
    தருவாகப் பலமொன்று பொடிக்கும் போது
அயிலமெனு நவாச்சாரம் வீரந் தானு
    மப்பனே யரைக்கழஞ்சு கூடப் போட்டு
ஒயிலாகப் பலம்நாலு ப்சுவின் வெண்ணெய்
    உத்தமனே கல்வத்தில் விட்டாட்டியே
தயிலமப்பா முன்போல சுடர்தயிலம் வாங்கித்
    தருவாகப் பீங்,கானிற் பதனம் பண்ணே

பண்ணியே பணவெடைதா னந்தி சந்தி
    பத்துநாள் சர்க்கரையிற் கொள்ளும்போது
உண்ணவே பத்தியமோ யில்லை கண்டாய்
    உத்தமனே தீருகிற வியாதி கேளு,
நண்ணவே குஷ்டஞ்சொறி விரணம் வெள்ளை
    நலமான கருமேகம் வாத வாய்வு
திண்ணவே கயரோகங் குன்மங் கூடத் தீருமடா ."

GANDHAGA VADAGAM

Sulphur, mercury, dry ginger (Zingiber officinalis), pepper (Piper nigurm), long pepper (Piper longum), chebulic myrobalan (Terminalia chebula) and Indian aconite (Aconitum ferox) are taken in equal quantities. These are triturated with the juices of white Sesbania aegyptica (sembai) and Marsilea minuta- *(aarai leaf)* separately for 15 hours .

Pills are made in the size of an Indian liquorice *(kundri).* The *vadagam* is useful in the treatment of anaemia, tuberculosis and anorectal diseases associated with diarrhoea.

Dose : 1 pill

Curable disease: Aneamia,dropsy, tuberculosis, watery diarrhoea.

GANDHAGA RASAYANAM

Gandhagam (Sulphur)	350 gm
Withania somnifera *(amukkira kizhangu)*	175 gm
Smilax china *(parangi chakkai)*	70 gm
Chebulic myrobalan (Terminalia chebula)	
(kadukkai)	35 gm
Indian gooseberry (Emblica officinalis)	35gm
Dry Ginger(Zingiber officinalis)	35 gm
Long Peopper root	35 gm
(Piper longum root)	
Pepper (Piper nigrum)	35 gm
Embellia ribes	35 gm
Cardamom	35 gm
Cinnamomum zeylanicum	35 gm
Sandal (Sandalum album)	35 gm
Bengal gram	35 gm
Semecarpus anacardium *(senkottai)*	35 gm
Plumbago zeylanica root bark	35 gm

The above mentioned ingredients are powdered separately and mixed together. Sugar, honey and ghee are then added.

Dose : 1.3 to 1.9 gram.

The Rasayana is useful in the treatment of venereal diseases, dysuria, dermatological diseases, anorectal diseases, ulcers,vatha and swellings.

GANDHAGA KATTU

(CONSOLIDIFIED SULPHUR)

Gandhaga kattu can be consolidified or fixed by using the feathers of peacock.

"இல்லாமற் றேவியுர மென்ப துலகத்தில்
உல்லாச மாகி யுலவுமே - சொல்லாண்மைச்
சாத்திரிகள் கைவரிசை தப்பாம லெப்போதும்
போத்தின் சிறையாற் புகை."

3. *GOWRI*

(Arsenic penta sulphide)

Other names: *Sivagami, Eswari*

It is considered that aresenic penta sulphide is derived from yellow arsenic trisulphide. It is also considered that there are two types of arsenic penta sulphide. One obtained from natural source and another obtained by isolation from yellow arsenic trisulphide. Depending upon the colour, is also classified into three types-red, yellow and white arsenic penta sulphide.

Preparation of Red *Gowri Pashanam* :

It is said that when the yellow arsenic trisulphide is triturated with castor oil (Ricinus communis) and lemon juice separately and placed in a container and heated in a valuga apparatus, red *gowri pashana* is obtained. It is considered that this *gowri pashana* removes the three humors, magnifies the medicine and used for consolidified the mercury.

Purification and detoxification:

1. *Gowri pashana* (35 gm) is kept soaked in mother's milk for three days and then taken out and placed in a small mud plate and heated after adding the juice of Indian globe flower (Sphaeranthus indicus- *kottai karanthai)* to obtain in a purified form.

Group-A

Urine	1.3 litre
Lemon juice (Citrus medica)	0.650 ml.

Group-B

Pottasium nitrate	35 gm

Alum	35 gm
Sodium chloride	35 gm

Group - A liquids are mixed together. Group -B drugs are dissolved with the above juice mixture. Aresenic penta sulphide 175 gm is consolidified by adding the above juice mixture. Again Group -B drugs are made into poultice using Group -A juice mixture. The poultice is applied over the above arsenic penta sulphide piece. It is heated over the hearth *(kommatti aduppu)* and cleaned in a pure cloth and soaked in mother's milk and stored.

Other methods:

Method :1

It is consolidified by adding pig ghee for 3 days to get purified form.

Method: 2

Aresnic penta sulphide is consolidified by adding latex of Indian poppy (Argemone maxicana - *bramma thandu)* to get purified form.

Method: 3

The gowri padana is kept soaked for 3 days in leaves juice of Indian indigo plant (Indigofera tinctoria- *auri) and* bitter gourd (Momordica charantia- *pagal*) individually.

Actions :

Anti pyretic, anti periodic and anti vatha

General Properties :

The above said method -3 purified gowri pashsna is effective in the treatment of vatha disease, loss of taste and fevers.

"அவுரியோடு பாகலிலை யாற்சுத்தி செய்த
கவுரிபா ஷாணத்தைக் கண்டால் - சவுரியஞ்செய்
வாதநோய் மந்தமொடு வந்த சுரங்களெல்லாம்
காதிவிழுந் தோடுமெனக் காண்."

The genereal property of the golden coloured *paadaana* is ¼ of the effect of white *paadaana*.The golden coloured *paadaana* cures, kapha, deliraum, vatha diseases, scabies, poisonous bites,disorders of

three humors, various toxicity, haemorrhage and eight types of throbbing pains.

பொன்னிறந் தானாகுங் கௌரிபா ஷாணம்
　　பொருந்துமந்த வெண்மைக்குப் பாதிக்குப் பாதி
தன்னரு மைக்குண முண்டாம் வீயும்சீ
　　தச்சன்னி பாதத்தை யுயர்வாத ரோகத்தை
வண்ணமா கியசொறியைக் கடிவிஷ ரோகத்தை
　　மருவுதிரி தோஷத்தை வளர்தருபல் விஷத்தை
முன்னராகப் புகன்றவுதர ரோகத்தை யெண்வகைச்
　　சூலையை யகற்று மென்றனர் பாவலரே"

N.B. The method of preparation of *parpam* and *chendooram* from *gowri paadaana* is not available in literature.

GOWRI PAADAANA MAATHIRAI

(SARVA SURA KULIGAI)

Method of preparation:

Arsenic penta sulphide (Gowri) 35 gm is kept soaked in mother's milk for 3 days and then placed in an earthen shell and heated for 12 hours after adding mother's milk gradually to get purified. Yellow arsenic trisulphide 35 gm is taken and placed in limestone and then purified water is added. The yellow arsenic trisulphide is taken out after the limestone has boiled.

This procedure is repeated for 7 times to get purified arsenic trisulphide. The purified form of *gowri* and the arsenic trisulphide are then placed in a mortar and triturated with mother's milk for 12 hours. Then pills (maathirai) are made to the size of a black gram (65 mg.) and dried in shade.

The pills are effective in the treatment of fevers caused due to the derangement of three humours, rigor and intermittent fevers etc.,

Dosage: One pill should be taken twice a day for 3 days.

Distary restriction :

Tamarind, smoking should be avoided. The dhall and tender brinjal can be taken.

If the dietary retriction is not properly followed, pepper should be taken in the from of decoction.

Another method:

1. Purified and detoxified arsenic penta sulphide 35 gm.
2. cinnabar 25.2 gm.

The above raw drugs are triturated with lime juice for 12 hours. The same process is repeated in mother's milk and made into small pills (*ragi* size) and dried in shade. It is preserved. This should be used after one year.

Dosage: Not exceeding 6 pills per patient.

Adjuvant : Ginger juice , mother's milk, lime juice and honey

In order to avoid toxicity during medication, the decoction made of root bark of indigo plant *(neeli)*, pepper and root of amaranthus tricolor *(Ciru keerai)* may be taken.

GOWRI MEZHUGU

Arsenic penta Sulphide 35 gm is heated and the juice of country mallow (Abutilon indicum- *Thuthi*) 325 ml. is added gradually so as to absorb all the juices. The 70 gm. of country mallow leaves are made into a poultice and applied over the above processed arsenic penta sulphide. It is sealed with mud pasted cloth and dried. It is placed in a crucible which is made from limestone and sealed with 7 layers of mud pasted cloth and put into puda process. Civet is then added the quantity being twice the amount of *Gowri*. They are triturated well and made into small pills and dried in shade.

Usage:

The *mezhugu* is useful in the treatment of intermittent fever and chronic fever. It should be inhaled for 15 seconds.

Gowri paadaana is also added in higher potency medicines like *emathanda kuligai* and *vaana mezhugu.*

Signs and symptoms of *gowri* poisoning :

It belongs to white arsenic poisonous group and resembles the toxic symptoms of white arsenic. It causes toxicity within hours of

consumption.

Other Signs and symptoms of *gowri* poisoning :

Boils over the calf muscles, swelling over the sole of feet, pectoral region, tumour in the hypogastric region, pealing of the skin from the palm, redness of eyes, itching with irregular patches in leprosy, bleeding gums, cough, distended abdomen due to indigestion,vomiting and body heat etc.,

Anti -dotes :

Root bark of fire brand teak (premna integrifolia - *munnai*) (8.75 gm) is taken and decoction is made. Culinary salt (10 gm) and palm sugar candy (10 gm) are then added to the decoction and taken twice daily for 48 days. The same treatment is also the antidote for rat pashana.

4. *THAALAGAM*

(YELLOW ARSENIC TRISULPHIDE)

(Trisulphuret of Aresenic orpiment)

Thaalagam is called in various names such as., Idhu, peethagi, aalambi, paluppu, kothantham,maalam,arithaaram, kaalpuththi, ponvarni,manjal varni, maaldevi and arithalam.

Yellow arsenic trisulphide is as such available alone in India in small quantities. It is also available incombination with iron.Though most of the western countries do not use this medicine for internal administration, it isused for internal administration in small quantities in India. If it is heated it produces bluish coloured smoke.

Depending upon the colour, appearance and properties, the yellow arsenic trisulphide has been classified into four types:

1. *Sivappu aridhaaram* (Red orpiment)
2. *Madal aridhaaram*
3. *Pon aridhaaram* (Gold orpiment)

4. *Karattu thaalagam*

General properties of thaalagam:

It is effective in the treatment of skin disease, disease of head and tongue, fever with chills, *kapha*, urinary tract disease, veneral focus ulcer in the urethra etc.,

"தாளகத்தின் பேருரைக்கத் தாலுகவுள் நோய்குஷ்டம்
நீளக் குளிர்காய்ச்சல் நீடுகபம் - நாளகங்கொள்
துஷ்டப் பறங்கிப்புண் சூழமுகண் மண்டைநோய்
கிட்டப் படுபமா கிளத்து."

***Sivappu aridhaaram*:**

This is effective in the treatment of fever with chills, pricking pain, itching, vatha disease and leprosy.

"சிவந்தவரி தாரமது செஞ்சிலைபோற் காட்டும்
உவந்தத:னை யுண்முறையோ டுண்டால்- இவர்ந்தாழ்
சுரங்குளிர்மா வாதமுடற் சூலைநமை குஷ்டம்
இரங்குமென நாளும் இசை."

"மடலரி தாரத்தில் வருங்கர டிரண்டும்
உடல்வி ஷங்களைப் போக்கிடும் உண்மை."

Madal aridhaara karadu (strong arsenic) will cure toxicity in the body certainly.

***Madal Aridhaaram* :**

It is effective in the treatment of asthma, *kapha*, constipation and cough. It heals non-healing chronic ulcers and eczema.

"ஈளையுடனே யிருமல் கடிவிலகுங்
கோழை மலமகலும் கொம்பனையாய் -நாளும்
அடலுறுக யங்கரப்பான ஆறாப்புண் ணும்போம்
மடலரிதா ரத்தை மதி."

Karattu Āridhaaram:

Cough, tuber culosis (Emaciating diseases), kapha vatha diseases, eight types of ulcers.

"காசமுடனே கயநோய் கபவாதம்
பேசரிய குன்மமெட்டும் பேருங்காண்- மாசகன்ற

கீற்று மதிருதலே கேளாயுள் வேதமது
சாற்றும் அரிதாரத் தால்."

Pon Aridhaaram:

This is effective in the treatment of asthma, high chronic fever, poisonous insect bite, tuberculosis (emaciating diseases), fatigue and skin diseases.

"மந்தாரத் தாலே வளருஞ் சுவாசநோய்
உந்திவரு தீச்சரநோய் ஒடுங்காண்-முந்து
தொணிக்கயஞ்செய் யான்கடியுந் தோற் குஷ்டம் எகுந்
தனிப்பொன் அரிதாரத் தால்."

Actions:

1. Expectorant
2. Antipyretic
3. Emetic
4. Convalescent
5. tonic

Purification of Yellow arsenic trisulphide :

1.The Arsenic trisulphide 35 gm is bundled in a cloth and soaked separately in cow's urine (1.3 litre), rice water fermention (1.3 litre), lime water (1.3 litre), pumpkin juice (1.3 litre), cow's milk (1.3 litre) and decoction of bark of the peepul tree (Ficus religiosa- 1.3 litre). It is then subjected to steam heat to get purified

2. Arsenic trisulphide 35 gram piece is buried within limestone. Palm toddy is poured on the limestone for 10 times to purified form. It is washed and dried.

3. Small pieces of Arsenic trisulphide is bundled in a double layer cloth. It is kept immersed in cow's urine and heated for 3days. The same process is repeated with the rice cleaned water, vinegar individually to get purified form.

4. Urine	1.3 litre
Indian Acalypgha juice (Acalypha indica)	325 ml.
Limestone	325 gm

Arsenic trisulphide is bundled and kept immersed in the above mixture and heated to get purified.

5. Arsenic trisulphide is buried in limestone and poured by donkey urine to get purified .

THAALAGA PARPAM

Preparation method - 1

Purified Yellow arsenic trisulphide (35 gm) is triturated with the juices as mentioned in the following table, dried placed in an earthen shell and put to puda process to get the *parpam*.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required fur puda (6)
1. Palmyra toddy	140	10	7	1	40
2. Juice of Gold Indian Cassia margiuata	140	8	9	1	30
3.Juice of tubers of bryons Corallocarpus epigaeus	140	6	5	1	20
4.Juice of Soma tree (prosopis spicigera)	140	4	3	1	10

Three months old parpam is said to be the best, 2 month old is good, one month old is not advisable and below one month are to be totally avoided.

"அரிதாகச் செய்ததொரு தாள கத்தை
யடலையா னதுபழக முதன்மை மூன்று
மிருமாத மத்திமமு மதியொன் றாகி
லிசையதம் மதிலுமென வாடாய் பாம்பே."

"தாணகச் சுன்னத்தைச் சாதக மாக்கிடக்
கேளக மும்மதி கீழிரண் டொன்றதில்
வாளக மானவவ் வழக்கமுண் டாகுமே
நாளக நோய்க்கெலா நாந்தக மாகுமே."

Indication s:

Chronic fever, acute fever, Intermittent fever, fever due to indigestion, ascites,gastric ulcer.

"சுன்னமா தாளகச் சுராந்த கப்பெயர்
முன்னமே யுளதவை முனிவ ரோதினார்
குன்னமா வலிகபக் குடாரி நோயரி
யின்னமு முளதவை யெண்ணி லாதவே."

Dosage :

Equivalent to the weight of 1/8th of Bishops weed (Carum copticum).

"சுரமெரிக்கு மடலையெனுந் தாளகத்தை
யெண்வகைநேர் சொல்லு மோமம்
புரமெரிக்கும் பாசுபத மெனவுண்டோர்
புரமெரிக்கும் புன்மை விஞ்சிற்
றரமெரிக்குஞ் சன்னிவல்லை மகோதர
மேகவளி தணலி நோயை
யுரமெரிக்கு மாதலினா யுள்வேதிய
ரறிந்தினை யுஞற்று வாரே."

Curable disease	**Adjuvant**
Excessive *vatha*	Juice of Garlic (Allium sativum)
Low *vatha*	Cold water
Excessive *pitha*	Ghee
Low *pitha*	Toddy
Excessive *kapha*	Honey
Low *kapha*	Hot water

Vatha fever	Vinegar (old rice water fermentation)
Pitha fever	Whole plant juice of Cotton tree (Gossypium arboreum)
Kapha fever	Juice of basil (ocimum sanctum) *Uruthira thulasi*
Delirium due to *vatha*	Cow's butter milk
Delirium due to *pitha*	Whole plant juice of white low plant (Pergularia extensa)
Delirum due to *kapha*	Whole tree juice of (Barringonia acutangula - *Senkadappam)*

"வாத மாதிமுப் பிணிமிகு லெஞ்சல்மூ
வன்னிசன் னிகளான
பேத மானநான் மூவகை களுமறப்
பெருமருந் தனுபான
மோத லானவை யறிந்தவை வாகட
ருதவுத லியல்பாகு
நீத மிவ்வயி னிகழ்ந்தவை தாளக
நீறென லறிவாரே."

According to *Nartrathanar* ,the adjuvants for the three kinds of fevers are as follows:

Vatha	Arrack extracted from red course rice
Pitha	Arrack extracted from red course raw rice
Kapha	Arrack extracted from kara rice *(aval)*

"முந்நீர் சிவணிய செந்நீரி யாக்கை
முப்பிணி யானல வெப்பமா நளிரே
மாறிய நாள்பகல் வீறிய யாமமு
மாசுறு காய மூசுபு வெவ்வினை
மருந்தனு பானமு மிருந்தையிற் றாளக
வடுநறா முத்திற மிடுமுறையிற் சேயன
மீசுர மாகிய மீசுரப் படலிகை
பொருமுல வைக்கெதில் பூரணிக் குவையே யஃதான்று,

கூறிய வெல்லை குறைத்த னன்றெனிற்
றேறரும் பாயச் சீதவுட் டணப்பிதி
ரானவை யடுமிகு தாயுனூ னெறிபோல்
வண்மைசேர் பாலையிம் மாதொடு காளையு
நின்மிகை கொடியோ நேரிழை யணங்கே."

The whole plant juice of momordica charantia is act as an anti dote for curing the regidity of the joints and shaking of the teeth caused due to imprper regimen during the medication of *thaalaga parpam.*

"உண்ணப்பா வாகடத்திற் சிலைத்தாள் குற்றத்
துண்டாகும் மந்தமுத லனந்த மின்னல்
வின்னப்பா ழாக்கு மிந்த வூனா மெய்யை
வேறேன்ன சொல்லுவது கார வல்லி
யென்னப்பேர் பெற்றிருக்கு மாற்றொன் றாலே.
யெங்கேபோ மோவறியே னின்ன லெல்லா
மன்னப்போ ராடுவரோ பிணியா ளர்க்கும்
வாகடர்க்கு மனுகூலப் படுமி தாலே."

Preparation method - 2

Salt petre

Old tamarind (Tamarindus indicus)

These are taken in equal quantity and pound in a wooden pistle.Then it is made into cakes and dried. The dried cakes are placed in a earthen plate and heated. The whole cakes are burnt and become ash. The ash is kept in a porcelain vessel and exposed to dew. Then the collected liquid is stored. It is called *Vediyuppu Ceyaneer.*

Aresenic trisulphide (which is purified by using limestone and palm toddy) is placed in a mica sheet and heated.The above *vediyuppu ceyaneer* is added to arsenic trisulphide piece gradually. Then it is triturated and made into cakes and dried. An earthen pot is taken. 3 half portion of the pot is filled by shell lime powder on which the above cakes are placed and the cake with the shell lime powder. The pot is covered by a earthen lid. It is sealed with 7 layers of mud pasted cloth and dried. It is subjected to pudam with 15 cow dung cakes (each cow dung cakes should be weighing above 175 gm). The same process is repeated with 25 cow dung cakes and then with 35 cowdung cakes to get *parpam.*

Dosage : 65 mg-130 gm twice a day for 10 to 12 days.

Adjuvant: Palm jaggery

Diet restriction : Avoid Tamarind, salt

Indications : Tuberculosis, pneumonia, cough, pulmonary diseases and *kapha* diseases.

Note: By experiment it is as certained, thalaga parpam contains 4.9 part of arsenic. As such 130 mg. thalagam containts 6 mg. of arsenic

Preparation method - 3

Arsenic trisulphide	35 gm.
Salt petre	8.4 gm
Perchloride of mercury	8.4 gm
Fuller's earth	8.4 gm
Alum	8.4 gm

A single piece of *thaalagam* (purified with limestone 10 times) is taken and the other four ingredients are triturated using the latex of white mudar (Calotropis gigantea) and a *kavasam* is made and dried.

The bark ash of the butea monosperma *(murukkam pattai)* is kept in an earthen pot. In the centre of the ash, the *kavasam* having thalagam is placed and sealed with 7 layers of mud seal and closed with mud pan (upper side) and placed on the hearth and properly heated for 12 hours with the three fires (deepākkini, kamalakkini and kaadakkini). After cooling the *kavasam*, the thalagam (*aritharam*) is got as a fine *parpam.*

Adjuvant: *Thirikadugu chooranam* or honey.

Indications: Pyrexia, cough, syphilis, leprosy, sinusitis, toxicity and tuberculosis.

Diet regimen: Tobacco and tamarind.

Preparation method - 4

Peepul tree bark (Cortex removed- Ficus religiosa) is tritu-

rated with the latex of mudar (Calotropis gigantea). Then it is made into a crucible with in which purified and detoxified arsenic trisulphide 35 gm is placed. It is sealed with 7 layers of mud pasted cloth and dried. Put it into *Kukkida puda.* The end product is collected and again triturated with latex of mudar for 3 dayscakes are made, dried and subject to pudam. This process is repeated one more time to get the parpam.

Dosage: 130 mg.

Indication :

The parpam given with suitable adjuvant cures leprosy.

"பெண்ணை மந்திரத்தினாற் பிறங்குமே தாளகங்
கண்ணனா ரண்ணன் கவின்பெறு சாம்பரே."

Preparation method -5

The arsenic trisulphide may be purified by using palmyra toddy. It is soaked in tuber juice of bryoms (Corallocarpus epigaeus (140 gm) and kept in dews for one night. The next day it is triturated with the above juice for 12 hours and cakes are made. It is then soaked in above juice 140 gm and kept in dews. Next day, it is again triturated and placed in dews. Thus cakes are made, dried and sealed with mud pasted cloth and put to puda process with 30 cow dung cakes.

The parpam so prepared should be used only after 7 or 8 months of preparation.

This parpam is useful in the treatment of cough associated with phlegm, asthma, delirium states and various types of fever.

Adjuvants : Ghee, honey, basil juice, buttermilk, whitelow plant juice.

Dosage: 1 to 7 *thinai* grain (Italian Millet) size.

THAALAGA CHENDOORAM

Purified yellow arsenic trisulphide (35 gm) is triturated individually for 10 days each, with the Aleaves juices of ring worm plant (Cassia tora), alexandrian laurel (Calophyllum longifolium) and rough bryony (Mukia maderas patana). Cakes are then made,dried

and placed in an earthen shell and put to puda process to get chendooram.

Adjuvant	Curable disease
Long Pepper (Piper longum)	*Vatha* disease
Pepper (Pipper nigrum)	Fever
Water	Diseases due to heat
Toddy	Unconciousness due to vatha
Boiled tender areca nut	Abdominal distension
Hot water	Hiccup
Root of long pepper	Emaciation diseases
Thick leaved lavender juice (Anisochilus carnosus)	Syncope (Faint)
Juice of Basil (Ocimum sanctum)	Syphilis
Bishops weed (Carum copticum)	Constipation
Juice of bark of babool (Acacia arabica)	Throbbing headache

Other method :

Juice of ash pumpkin	q.s
Limestone water	q.s
Gingelly oil	q.s

Arsenic trisulpide 35 gm is boiled indiidually 3 times with above ingredients and then in gingelly oil seperately to get purified and detoxified form.

Dosage: According to the body condition of the patient. However, the dosage should not exceed 488 mg.

Adjuvant	Curable disease
Honey	Throbbing pain in cranium and poisonous
Lime juice	Ophthalmic diseases
Palmyra jaggery	*Vaatha*

Pumpkin fruit juice	Gonorrhoea
Cucumis sativus	Anuresis
Cow's milk	Dysmenhorrhoea
Fried egg	Oliguria associated with consti pation
For Urinary stone	i. Rat's faecal matter
	ii.Fowl dung
	iii. Egg yolk

THAALAGA KARUPPU

(YELLOW ARSENIC TRISULPHIDE)

Yellow arsenic trisulphide	10 gm
Flesh of snail	40 gm

These two are triturated and made in a single cake and dried. It is placed in an earthen plate and covered with another earthen plate and sealed with mud pasted cloth and subjected to *puda* process. Then it is powdered and stored.

Dosage : 65 mg - 130 mg.

Adjuvants : Honey, ghee, *thalisaathi chooranam*

Indications : Asthma, pyrexia, all types of pulmonary diseases.

THAALAGA MAATHIRAI

(YELLOW ARSENIC TRISULPHIDE TABLET)

Group - A

Thalaga parpam	10. gm
Lead *parpam*	2.5 gm
Clove (Syzygium aromaticum)	2.5 gm
Dried ginger (Zingiber officinalis)	2.5 gm
Black pepper (Piper nigrum)	2.5 gm
Terminalia belerica (Beleric myrobalan)	2.5 gm
Goose berry (Emblica officinalis)	2.5 gm

Group -B

Sea water	75 gm
Basil juice (Ocimum sanctum)	75 gm
Toddy	75 gm

Group-A drugs are triturated with the Group-B liquid mixture for 4 hours per day , continuously for 10 days and then rolled into pills (of green gram size) and insolated for 10 days. This preparation is useful in various types of fever and toxicities. It is given with pure water as an adjuvant.

Another method:

குன்றியரி தாரங்கோ ரோசனை மூன்று
என்ற லிகுசச்சா றூட்டியரைத் - தொன்றான
மாத்திரைதே னீரிலுண வாதசுரஞ் சேட்பசுர
மாத்திரமோ போம்பிணிய மன்.

நளிரொடு வெம்மையு நண்ணு நோயினுக்
களமுலைப் பாலினி லத்த மாமுரை
புளிதவில் முரிவினை பொருத்து பாகவே
வளிநிகர் தாளக மாத்திரைக் கீதே.

THAALAGA ENNEI

(VIRANA SANJEEVI THAILAM)

1.	Gingelly oil	350 gm
2.	Powdered yellow arsenic trisulphide	1 coin wt
3.	Marking nut (Semecarpusanacardium)	10 no (cut into 2 pieces)

These are mixed together. This is placed in a vessel with a long handle and heated gently until the extracts of marking nuts are completely dissolved in oil. Then the mixture is poured into a vessel containing equal quantity of purified water and rice washed water mixture. Next day, the ingredients are scraped and again heated and filtered to obtain the oil.

The oil so prepared is useful in the healing of ulcers when applied topically. When taken internally along with betal leaf, it cures delirium.

THAALAGA KATTU

Yellow arsenic trisulphide 17.5 gm is heated and adding Juice of East Indian globe- thistle (Spheoeranthus amaranthides-*Sivakaranthai)* juice gradually. This is repeated with the juice of trailing eclipta (Eclipta prostrata- *Karippan)* juice (each 650 ml) and dried. Potassium nitrate is fried gently and triturated with lemon juice. It is made into a poultice *(kavasam)* and pasted over the above processed yellow arsenic trisulphide and dried. It is sealed with 7 layers of mud pasted cloth and put into *puda* with 15 cow dung cakes.

Other method:

half portion of an earthen pot is filled with flower petals of portia tree (Thespesia populnea) shell lac powder (Croton aromaticum -*Komburakku* powder -17.5 gm) is placed over it. 35 gm.of yellow arsenic trisulphide is placed in the pot and covered by shell lac powder and petals of the portia flower. The pot is covered and sealed with mud pasted cloth and put into puda with 20 cow dung cakes.

Indications : *Thaalaga kattu* is useful in the treatment of fever due to *kapha* and delirium.(Fever due to deranged *kapha)*

Signs and symptoms of poisoning of yellow arsenic trisulphide:

Yellow arsenic trisulphide if not prepared properly or if impure form is used, the preparation will be quite toxic. The following signs and symptoms may be seen., burning pain of the stomach, gastritis, horseness of voice, change of voice, nasal bleeding. bleeding from the nail buds, loss of appetite and loss of smell, indigestion , itching over the head, redness in the tip of the hairs, mental disorders, lower abdomenal swelling, throbbing pain in the lumba region,bronchitis and sciatica.

Antidote:

Bark root of ceylon lead wort (Plumbago zeylanica)	8.75 gm.
Pepper (Piper nigrum)	8.75 gm.

These are added together and made into decoction. culinary salt (4.37 gm) is then added and the mixture is taken twice daily for 21 to 42 days.

2. **Alternate method:** The following ingredients are mixed together and mad in to decoction and taken as antidote for toxicity of *thaalagam.*

1.	Indian indigo root (Indigofera tinctoria *-neeliver)*	8.75 gm.
2.	Flower of Tanner's cassia (Cassia auriculata *-aavaaram poo)*	8.75 gm.
3.	Cuscus grass (Vetiveria zizanoides)	8.75 gm.
4.	Cumin seeds (cumium cyminum)	8.75 gm.
5.	Pomegranate seeds (Punica granatum)	8.75 gm.
6.	Immature coconut (Cocos nuitera - *thennankurumbai)*	8.75 gm.
7.	Root of cichorium endivia *(Kaasini ver)*	8.75 gm.

தேருவாய் தாளகத்தைத் தின்றோர்க்கு நீலியதன்
வேருடனே யாவிரம்பூ வெட்டிவேர் -சீரகமும்
மாதளைவித் தொடுதென்னம் வன்குரும்பை காசினிவேர்
தீதகல நற்குடிநீர் செய்".

THOTTI PAADAANAM

This is one among the 32 varieties of natural paadaanas.

This is efffective in the treatment of fevers, syphilis,excessive vatha, Indigestion, breast abscess, disease of vayu, poisonous of bite etc. It is also used as an ingredient in certain medicines such as *sarabaraaja kuligai.*It is useful in alchemy also.

"தொட்டிப்பா டாணமெனச் சொன்னால் சுரங்கிரந்தி
எட்டிப்பார்க் காவாம் இடருறுத்தக்- கிட்டிவரு
வாயுவின் றன்பெருக்கும் மந்தமுளைக்
கட்டியும்போம் ஆயினது வாதவித்தைக் காம்."

"தொட்டிபா டாணத் தன்மை
சொல்வாத வித்தைக் கேற்கும்
துட்டமார் கிரந்தி வாயு
விடக்கடி தொலைக்கு மென்ப."

Purification:

1. It is made into small pieces and boiled in ghee.

2. It is boiled in cow's urine for 6 hours and then it repeated in the following juices:
   a .Indian aloes juice (Aloe vera)
   b. Trailing eclipta juice (Eclipta protrata)
   c. Wild asparagus juice (Asparagus racemosus)

***Aya thotti* purification :**

It is soaked in cow's milk for 12 hours and again soaked in honey and ghee individually for 8 days to get purified form.

6. *NAVA PAADAANAM*

The ingredients of this preparation have not been found in the literature. It is considered that this medicine cures serious diseases and it also strengthens the body.

"நவபாடா ணந்தன்னை நற்சுத்தி செய்தங்
குவகையாய்ச் சிந்தூரித் துண்டால் - நசமாகக்
காயம் இறுகுங் கனத்தநோ யும்போகும்
மாயும்நோய் எல்லாம் மதி."

7. *PANCHA PAADAANAM*

The ingredients contained in the *Pancha Paadaana* are not available in literature.

It has been mentioned that the following are considered as *Pancha paadaana*s:

1. Yellow arsenic trisulphide
2. Arsenic trioxide (white pashana)
3. Arsenic penta sulphide (gowri paadaana)
4. Cinnabar and
5. *Thotti paadaana.*

"பஞ்சபா டாணமெனப் பரிலுரைத் திட்டாலும்
வெஞ்சதை ஆணிபுற்றும் வீழுங்காண் -விஞ்சிவளர்

கண்புற்றுத் தீருமதி காய்ச்சலகுளிர் மேகம்போம்
பண்புற்ற மாதே பகர் "

It has been mentioned in the text *Pathartha Guna cintamani* that the pancha paadaana is useful in the treatment of morbid growth of flesh, the core of an ulcer, eye cancer, hyper pyrexia (high fever), fever with chills and venereal diseases.

PANCHA PAADAANA CHENDOORAM

Red sulphuret of mercury, bisulphuret of arsenic, magnet, yellow arsenic trisulphide, sulphur, sulphide of mercury, arsenic trioxide 35 gm each are taken and purified and triturated for 12 hours with each juices of Indian acalypha (Acalypha indica), betal leaf (Piper betle), cotton, Enicostemmaaxillare, Daemia extensa,phyla nodiflora.

Then cakes are made, dried, kavasa is made with betel leaf placed in a mud pot and coverd with another mud pot. It is sealed with seven layers of mud pasted cloth. The pot is heated for 12 hours and the chendoora which has been found deposited on the upper part is collected. This chendoora when given along with honey and gigner juice is effective in the treatment of delirium, pyrexia, leucoderma, throbbing pain,*vayu; vatha,* venereal diseases,gastric ulcer, diarrhoea, rheumatism, insect bite, epilepsy, fissure, cancer, cervical adenitis, hansens eczema, teania, buccal cancer. skin diseases in the scalp fistulla, anorectal disases, tuberculosis, venereal ulcers etc.,

8. *MANOSILAI* (RED ORPIMENT)

ARSENIC DISULPHIDUM- BISULPHURET OF ARSENIC REALGAR

Manosilai (Bisulphuret of arsenic) is of two types:

1. Piravi sarakku *2. Vaippu sarakku.*

Vaippu sarakku is obtained by adding 5 parts of arsenic trioxide and 3 parts of sulphur. It has got body strengthening and rejuvenating properties. It's potency is old. This is effective in the treatment of skin leprosy, fever with chills, asthma, eye diseases, urinary tract infections, kapha diseases, cervical adenitis etc. It is also effec-

tive in the treatment of ajakalliga (a type of boil occurring in children).

Purification method -1

Bisulphuret of arsenic is triturated with any one of the following for 3 hours.

Ginger juice, lemon juice, cow's butter milk. It is then dried to get purified form.

Method -2

Red orpiment (35 gm) is made into small pieces and kept soaked in 175 gm of formented buttermilk in a clay vessel. It is insolated and kindling frequently. In the evening it is washed in the water. The same procedure is repeated for three times to get purified form.

Method -3

Ceylon leadwort (Plumbago zeylanica) root bark 175 gm is added with 975 ml. of water and made into a decoction by reducing it into 325 ml. Red orpiment is bundled and kept in thola appliances with the above decoction and boiled until the decoction completely dehydrates. The above red orpimet is bundled and mixed with goats fat and fried until the bundled cloth becomes black.Then the red orpiment pieces are cleaned by using a cloth. (instead of root bark flowed may also be used).

Method -4

Red orpiment 70 gm. is bundled and placed in Thola appliances in which female white goat's urine 1.625 litre is poured and boiled until the urine completely evaporated. the red orpiment triturated in a mortar with gaoat's bile and made into small cakes and dried. This processes is repeated for seven times to get purified.

It is also purified in the Yellow arsenic trisulphide purification method.

MANOSILAI PARPAM

Manosilai is triturated with long pepper (Piper longum) decoction and subjected to puda to get the *parpam*. It is considered that

this parpam is effective in the treatment of fever associated with *kapha.*

Manosilai is mostly used not as such alone but in combination with other medicines as pills and oil. The oil is effective in the treatment of fistula when applied topically. The pill is effective in the treatment of fever with chills when given orally.

It is mixed with ash of rough chaff plant(Achyranthes aspera) and applied externally for Vitiligo.

MANOSILAI MAATHIRAI

1. Purified Red Orpiment Manosilai	2 gm.
2. Dried Ginger (Zingiber officinalis)	32 gm
3. Black pepper (Piper nigrum)	32 gm
4. Long pepper (Pipper longum)	32 gm
5. Chebulic myrobalan (Terminalia chebula)	32gm
6. Beleric myrobalan (Terminalia belerica)	32 gm
7. Goose berry (Emblica officinalis)	32 gm
8. Long pepper root (Piper longum)	32 gm

The above drugs are triturated with basil (Ocimum sanctum) juice and made into pills (Black pepper size) and dried.

Dosage: 1 to 2 pills

Indication : Fever with chill.

SIVANAAR AMIRTHAM

1. Nepal aconite (Aconitum ferox- *iruvi)*	35 gm
2. Mercury	35 gm
3. Indian aconite (black) (Aconitum ferox)- Karunaabi	35 gm
4. Myrobalan gunduc	35 gm
5. Dried ginger (Zingiber officinalis)	35 gm
6. Red orpiment *-Manosilai*	35 gm

7. Brute borax - *Vengaram*	35 gm
8. Long pepper (Piper longum)	35 gm
9. Black pepper (Piper nigrum)	280 gm

These are purified and made into powder and triturated in a mortar for 7days without interuption. A black coloured *Sivanaar amirhtam* is obtained. This is considered effective in 80 types of *vatha*, 40 types of *pitha*, 20 types of *kapha*, 5 types of asthma, leprosy, gastric ulcer and scorpion bite, delirium , anorectal diseases, tuberculosis, ascites,cramps and epilepsy.

Dosage : 458 mg.

This is used as snuff delirium, poisonous bites, epileptic condition

This may be prepared with or without adding Nepal aconite. If prepared with Nepal aconite this should be consumed with prescribed diet restrictions as detailed in the following stanzas:

"இருவியோ டிரதம் நாவி
    இசைந்தகந் தகமே சுக்கு
மருவிய சிலைவெங் காரம்
    மாகதி வகைக்கோ ரொன்று
தருகிய மிளகோ ரெட்டு
    சாந்தநற் கல்வத் தீந்து
பருவமாய் நாள்க ளேழு
    பதமுட னரைத்தி டாயே."

அரைத்திடப் பொடிக ருப்பா
    மனுபான விசேடத் தீய
வருத்துமெண் பதுவாம் வாதம்
    வன்பித்தம் நாற்ப தோடு
இருதிய திருப தையம்
    இயம்பிய சுவாசம் ஐந்தும்
பெருத்ததோர் குட்டங் குன்மம்
    பெருகிய சன்னி தானே.

சன்னியு மூல ரோகம்
    சயமுடன் மகோத ரங்கள்
வன்னிய வரணை தேள்கள்
    வல்விடம் குமர கண்டன்

பன்னிய நசியஞ் செய்து
பணவெடை கொள்வீ ராகில்
எண்ணிய சிவனா ரமிர்தம்
ஈசனா ருரைத்த வாறே."

Purification of Nepal aconite - Aconite ferox-*Iruvi chuththi*

It is soaked in cow's urine and dried in shade.

MANOSILAI CHENDOORAM

(*Chendooram* of Bisulphuret of arsenic)

Purified bisulphuret of arsenic (35gm) is covered with poultice of tanner's cassia (Cassia auriculata) leaf (70 gm) and dried. Lime shell (140 gm)is taken and half of it is placed in a small mud pot. Now the bisulphuret of arsenic which was put to poultice over the lime shell in the mud pot.Over this the remaining portion of lime shell is placed and pressed. The mud pot is covered with lid and sealed with 5 layers of mud packed cloth, dried and then put to *puda* process to get the *chendooram*.

The *chendooram* is effective in the treatment of skin diseases, fever with chill, asthma etc.

Dosage: 32 mg-65 gm.

Adjuvant : Nigella sativa (*Karunjeerakam)* and psoralea corylifolia *(Karpogi* rice*)*.

MANOSILAI PUGAI

(Bisulphuret of arsenic smoke)

The latex of mudar (calotropis gigantea- white variety) is added gradually to the heated bisulphuret of arsenic and triturated with above latex. Then made into small pills.

Method of administration:

Pill is put on fire, the fire smoke is alloved to set on vitiligo where pigmentaion will take place.

Restriction: Salt, tamarind and tobacco are to be avoid.

MANOSILAI CHOORANAM

(BISULPHURET OF ARSENIC CHOORANAM)

The chooranam is made by adding equal quantities of bisulphuret of arsenic, bamboo salt (Bambusa arundinacea) shell lac *(Kombarakku)* black cumin (Nigella sativa) ,wild turmeric (Curcuma aromatica) great leaved caledium (Alocasia indica - *merugan kizhangu)* and bonduc nut(Caesalpinia bounduc).When the chooranam is taken along with honey, it is very effective in the treatment of chronic pyrexia.

Dosage: 1 gm thrice a day.

MANOSILAI ENNEI

Bisulphuret of arsenic, yellow aresenic trisulphide (2 parts each) are added to pepper (Piper nigrum) (4 parts) gingelly oil (20 parts), juice of mudar (Calotropis gigantea) (5 parts) boiled well till the moisture evaporates and filltered to get an oil. The oil is effective in lepromatic ulcers when applied topically.

CHANDRODAYA MAATHIRAI

Seed of chebulic myrobalan (Terminalia chebula), long pepper (Piper longum), bisulphuret of arsenic, conch, costus root (Costus speciosus), pepper (Piper nigrum), sweet flag (Acorus calamus) are taken in equal quantitities and triturated with water for 3 hours. White goat's milk is then added and trituated for 3 hours. Pills are then rolled and dried in shade.

When instilled into the eye with proper vehicle,it is effective in the treatment of pterygium, night blindness, painful eye, cataract, opthalmalgia etc.

Manosilai is also included in the ingredients in the speciality medicines like, *kasthoori karuppu, vishnu chakkaram, gandaga sudar thailam, pashana maathirai, pramananda bairavam.*

Note: If *manosilai* is ground with salt petre, there may be a fire out burst. Therefore ghee or butter should be added while grinding it.

9. *MIRUDHAR SINGHI*

(LEAD ORE - GALENA SULPHIDE OF LEAD)

Lead ore is known as Singhi in Siddha medicine. This is of 3 types.

1. *Mirudharu singhi*
2. *Raththa singhi and*
3. *Eama singhi.*

It is considered that *Raththa singhi* is prepared by the combination of *Mirudharu singhi* with blood of double tongued lizard and other ingredients. *Eama singhi* is supposed to be obtained by the combination of *Raththa singhi* with gold and other medicines.

The lead ore commonly available in shops is obtained by blowing the lead sand in a crucible. It does not dissolve in water. If the smoke of this lead is inhaled it may produce serious health hazards and may causes diseases.

It has astringent, demulsent and anthelmintic actions.

"காளாமற் காரியஞ் சேர்தாளெட்டுக்
கலந்திடவே கரைக்கெந்தி சேரிரண்டு
மீளாமற் காரீய முருக்கிக் கொண்டு
மிடுக்கான கெந்தி யிட்டு வறுத்திட்டக்கால்
வேளாமற் காரீயந் தூளு மாகும்
மிடுக்கான கல்வத்தி லிதனைப் போடே.

இதனோடே கூடவிடு மருந்து கேளு
ஏற்றமாம் வெடியுப்புப் பலமு மெட்டுப்
பதனோடே தாளகமும் பலமு மெட்டுப்
பாங்காக இவை யெல்லாம் பொடியாய்ப் பண்ணிப்
புதனோடே கண்குவிந்த கலயந் தன்னிற்
போட்டுமே வாலுகையின் மேலே வைத்துக்

கதனோடே மூன்று நாள் தீயைப் போடு
காரியாய் தொடர்ந் ததனையெரித்தி டாயே.

எரித்திட்டு மூன்றுநா ளாறப்போடு
எளிதாகக் கலயத்தை யுடைத்துப் பார்த்தால்
கரித்திட்டுக் கட்டியாய் பொன்னின் நிறமாய்க்
கனமாக மிருதாரு சிங்கியாச்சு."

Properties:

It cures spreading skin patches, eczema, adenitis and chronic ulcers.

"மிருதார சிங்கெனவே மெல்லவுரைத் தாலு
முருவார் புடைகரப்பா னோடு- மொருவிதமோ
சாலச் சிரங்குபுண்ணுந் தப்பாம லாறிவிடும்
வேலொத்த கண்மயிலே விள்."

Purification of Lead ore:

The lead ore is heated in goat's urine and then soaked in mother's milk and goat's milk for 4 hours in each to get the pure purified form.

SINGHI VANGA PARPAM

(LEAD ORE PARPA)

The lead ore with shiny appearance (12 gm), egg- shell obtained after the birth of the chicks (12 gm), ferro ferric oxide salt petro (12 gm) - *Moondram kaychal vediyuppu* are taken and purified and triturated with white variety of mudar (Calotropis gigantea) cakes are made, dried and placed in a crucible and blown in a furnace to get the parpam.

This parpam is useful in the treatment of asthma, cough, tuberculosis, pulmonary diseases etc.

Dosage: 65 mg- 260 mg.

Adjuvant: Honey and Ghee.

Regimen: Avoid cooling, sour, pungent and syphilis inducing diets and also avoid smoking and sexual contact,

MIRUDHAR SINGHI CHENDOORAM

(LEAD ORE CHENDOORA)

Lead ore (280gm) is powdered and soaked in honey for 3 days and melted in an iron spoon separation of lead will occur. This lead is placed in a thick bottomed pot and heated. Jacquin's night shade (Solanum xanthocarpum) yellow eclipta prostrata (Wedelia calendulacea), Butea frondosa flower are taken in equal quantities, powdered and added with lead in the pot and kindled well till the *chendooram* is formed. After cooling it is stored in bottles.

The *chendooram* is useful in the treatment of various types of venereal ulcers.

Dosage: 244 mg.

Adjuvant: Honey twice a day for 48 days.

Regimen: *Icha pathiyam*

Another method:

Lead ore 40 gm. is soaked in lime juice and sealed with mud pasted cloth and kept burried in a pit for 8days. On the 9 th day it is taken out and washed. Sulphur 10 gm. is triturated with the juice of wedelia calendulacea and made into small cakes and dried. A pit should be dry and half of the pit is filled by 1.3 litres of bricks powder. The above cakes are placed over it and filled by 1.3 litre of powder and above that 10 cow dung cakes are placed and into puda. This process is repeated for 3 times. Fourth time this process is repeated instead of brick powder, conch powder should be used for covering the cakes.

Dosage: 488 mg.

Adjuvant: Honey and butter.

MIRUDHAR SINGHI PLASTER

(LEAD ORE PLASTER)

Lead ore (1.8 kg), gingelly oil (4.55 litre) and water (1.750 litre) are placed in an iron pot. The iron pot is placed over hot water

and heated for 4 to 5 hours and kindled well. When the consistency of kuzhumbu (semi solid) develops, it is taken out.

This plaster may be used for local application in case of cut injuries.

Led ore plaster is added in the preparation of *vaana mezhugu,* and *vanga kalimbu.*

10. *VELLAI PAADAANAM*

(WHITE ARSENIC- ARSENIOUS ACID).

This is obtained from nature in the land. It is mostly available in combination with other metals such as sulphur, iron, copper etc.

Properties:

When used in small doses, it stimulates the appetite; improves body strength; removes neurasthenia; reduces fever. It also stimulates the heart, Lungs, bowels and reproductive organs. It is also considered that it generally improves the resistance to infection.

Actions : Appetizer, tonic, nerve tonic, antipyretic.

The Arsenic trioxide is generally used in Unani medicine for its reproduction function. In western medicine, it is mostly used in the treatment of syphilis.

General properties:

Arsenic trioxide has been found to be effective in the treatment of epidemic fever, poison bite, delirium, Infections, ulcer of the nose and mouth and venereal ulcers. Further, this also effective in the treatment of filarial fever, skin diseases, asthma etc.

"வெள்ளைப்பா டாணம் விடங்கடிதீ ரும்பூசக்
கொள்ளைச் சுரத்தோஷங் கோரசந்நி - தொள்ளையுறு
நாசிப்புண் வாய்ப்புண் நணைகிரந்தி போமுண்ண
ஆசிக்குங் கும்பமுலை ஆய்."

Dosage: 4 mg- 8 mg.

Purification for detoxification:

Method I :

Arsenic trioxide (35 gm) is powdered and it is loosely bundled in a thick cloth. Pepper (piper nigrum) (35gm) is triturated with water and dissolved in the juice of Amaranthus gangeticus leaves and kept in a mud pot. The bundles containing arsenic trioxide is made to hang inside the pot without touching the bottom of the pot. The pot is heated with low intensity of fire till the juice becomes semi - solid. the arsenic trioxide is washed with water and taken out. This procedure is repeated for 3 times.

The above said procedure can be used for the purification of Nava pashanam also.

Method II :

Vinegar, juices of lemon , sour mango , tender tamatrind fruit , Leavesof of tamatrind , hibiscus cannabinus *(pulichai keerai),* Oxalis corniculata *(Puliyarai juice),*Carambola apple juice (Averrhoa caramboala-*Tamarathangai).* In the above listed ingredients any of the three juices and the arsenic trioxide is bundled in a silk cloth.It should be taken and adding gradually to the heated arsenic trioxide.

Note: *Gowri pashanam* also can be purified in the above said process.

Method III : (Grinding puda purification)

Arsenic trioxide 35 gm is powdered and triturated with lemon juice. It is made in the small cakes and dried. This process is repeated for 7 times.

Note: ***Navapashanams*** can also be purified in the above said process.

Method IV :

Arsenic trioxide 35 gm is soaked in bitter gourd leaves juice (Momordica charantia)- 70 gm. is insolated. This is repeated for 15 days by adding fresh juice daily. Instead of bitter gourd juice jack fruit nut pit oil 70 gm is added and the same procedure is repeated for 15 days to get purified form.

"பாஷாண நாபியென்னு யால கலாப்
பண்புநிலை யறிந்ததையே மலின மாற்றிக்
கோடான கோடியெனும் அவிழ்த நன்மை
கொண்டாடு பண்டிதரே குணவா ணாவார்."

Anti - dote :

Bitter gourd leaves juice has to be given first, if not fruitful black pepper can be given.

Method V :

Arsenic trioxide soaked in latex of white variety of mudar (Calotropis gigantea) for a day. This is repeated with lime juice instead of latex of mudar. Then it is washed in vinegar. This Arsenic trioxide is kept within the tuber of (Aloecasia indica - *merugan kizhangu*) and covered by cow dungs and put into lagu puda to get purified form.

Method V I:

Arsenic trioxide is buried within the limestone and seasoning with the palm toddy for 7 times to get purifed form.

Method VII:

Arsenic trioxide is condensed by heating and adding gradually the Indain indigo leaves juice (*Indigofera tinctoria*) and white variety mudar leaves juice (Calotropis gigantea) 9 hours separately.

Method VIII:

Streblus asper pit oil *(kuttipala kuzhi thailam)* is added gradually to the heated arsenic trioxide to get purified form.

Method IX:

Latex of raw fruits of margosa and mudar are individually added to heated arsenic trioxide to get purified form.

PAADAANA PARPAM

Method I :

A mud pot to the capacity of 2.6 litre is taken. The ash of yellow buried night shade (Solanum xanthocarpam) 1.3 litre is laced

buried night shade (Solanum xanthocorm) 1.3 litre is placed inside the pot and over this 35 gm of purified arsenic trioxide is placed. Again over this 1.3 litre of ash of yellow buried night shade is placed and pressed. The pot is covered with another small mud pot and sealed with mud pasted cloth. The pot is heated for 9 hours over hearth. After cooling, the parpam may be obtained after removing the ashes.

The parpa has got the body strengthening property and it is given in the doses of 16 mg- 32 mg.

Adjuvants: Butter, ghee and milk

Indication: Convalescence

Method II :

Arsenic trioxide 35 gm. is placed on the mica plate and heated. White variety of long leaved barleria (Hygrophila auriculata) juice is gradually added. This is done till if arsenic trioxide is put into fire the smoke will not arise. The arsenic trioxide is covered 1" thickness by white variety of long leaved barleria poultice and placed in a crucible and covered with fire stone plate. It is sealed with mud pasted cloth, dried. It is put into puda with 15 times weight of cow dungn cakes. Finally two days placed in the night time only.

Method III :

Arsenic trioxide is soaked in the latex of triangular spurge (Euphobia antiquorum) and dried. Alum, potassium nitrate and skull bones are triturated with white yolk of egg and made in a crucible. Arsenic trioxide is placed with in the crucible and sealed with mud pasted cloth and put into *Kukkida pudam.*

PAADAANA CHENDOORAM

(Arsenic trioxide chendoora)

Arsenic trioxide (35 gm) and salt petre processed five time (35 gm) are powderd and placed in a flask. The flask is covered with a lid. It is heated over a hot sand. The resultant materials are than taken out and again placed in the flask and heated again to get the chendooram.

Dosage: 35 mg- 65 mg.

Adjuvant: Ginger (Zingiber officinalis), honey, sugar, dried ginger powder.

Curable diseases: Various types of fevers and particularly intermittent fevers.

PAADAANA MAATHIRAI

Method I:

Arsenic trioxide 35 gm is heated gradually adding the bitter gourd juice (Momordica charantia)for 12 hours. A large size of a bitter gourd is taken and it cut into two parts. The above processed padana is kept in the centre of the bitter gourd , tied with a rope and pasted with baffalo dung,dried and made into *lagupudam.*The *karpoora silasattu* (a bazaar drug) is taken two parts of the above purified padana and powdered. Then the *silasattu* parpam half part is kept in an earthen lamp and the padana powder is kept over it and it is closed with theremaining silasattu powder. It is closed with a mud pasted cloth and calcined with 50 numbers of dung cakes. The pepper powder half weight of the of the puda process is mixed and ground using the pepper decoction for 6 to 9 hours and made into pills the size of the green gram and dried in shade and bottled up.

Dosage: One tablet

Adjuvant: Ginger juice and pepper decoction.

Curable diseases: Fever with chill , pyrexia, skin diseases,wound and syphilis.

Regimen: Avoid sour and salty diets. Milk, rice and bread can be added.

Method II :

The padana is heated with latex of mudar for 12 hours and purified. A piece of cinnabar is soaked in mother's milk for 3 hours. The above two ingredients are ground with white variety of pepper and the lime juice for 12 hours and made as tablet of the size of a black gram and dried in shade.

Dosage: Twice a day for three days.

Adjuvant: Cooled water

Curable diseases: Fever with chill

Regimen: Avoid sour diets and smoking. Brinjal and dhal can be taken.

Note : On seventh day pepper decoction should be taken and on the eighth day hot water bath be taken with bishopweed. Then heated tamarind may be added in food.

Method III:

Iron sulphide chendoora, brute borax, aluminium silicate, white variety of pepper and rsenic trioxide are purified, powdered and triturated with pepper (Piper nigrum) decoction and rolled into pills to the size of pepper or black gram used after 2 months. This pill is useful in the treatment of fever of bony origin and intermittent fever.

"அத்திசுர மெங்கே அதற்கடுத்த நாள்தனிலே
மற்றசுர மெங்கே வழுத்தக்கேள்- புத்திரனே
வேதி பொரிகாவி வெண்மரிசம் வெள்ளையுடன்
ஆதிமரி சச்சாற் றரை."

PAADAANA MEZHUGU

(ARSENIC TRIOXIDE MEZHUGU)

"வேகுமே வரையாப்புத் தீர வென்றால்
வெள்ளைப்பா டாணமதை மெழுகி லூட்டி
ஏகமே வில்லைதட்டி வெதுப்பிக் கட்ட
விருந்தவிடந் தெரியாம லேகும் பாரே."

The arsenic trioxide is mixed with wax and made into pills. It is appplied externally on the bobo, which will cure comletely whith in a short period.

VIDAKKUZHAMBU

(ARSENIC TRIOXIDE KUZHAMBU)

The seeds of the neem tree (Azadiracta indica), mercury, sulphur, crude copper sulphate, bisulphuret of arsenic, ferula foetida, purified croton tiglium seed, arsenic trioxide (5.1 gm each) are added

together. Latex of white variety of calotropis gigantea is then added and triturated for 3 hours. Neem ghee (Azadiracta indica) is then added and again triturated for 3 hours.

The resultant material *(Kuzhambu)* is then taken out and stored in horn flask.

The *kuzhambu* is useful in the treatment of all types of poisoning. If it is taken in the size of a pulse, placed in betel leaf and applied over the effected part of the poisonning bite, it will cured.

PAADAANA KATTU

(ARSENIC TRIOXIDE KATTU)

The Arsenic trioxide is placed in bitter gourd (Momordica.charantia) and boiled in palmyra toddy to get solidify. The solidified padana is effective in the treatment of all types of fever.

SYMPTOMS OF *VELLAI PAADAANA* (ARSENIC TRIOXIDE) POISONING:

Arsenic trioxide is quite toxic when used even in slightly excess doses. When used in high doses, it may cause death. Even when used in small doses for long period, it may produce signs and symptoms of chronic poisoning.

ACUTE POISONING:

The signs and symptoms of acute poisoning of Arsenic trioxide are:

Blister, scabies, pain in the hands and legs finger,swelling of the face, ulcer of the upper lip, vomiting and bad odor in the vomiting, pain in the throat, tasteless in the mouth, burning sensation in the stomach, bleeding diarrhoea and vomiting, haematemesis, thirst, excessive sweating, strangury, syncope, convulsion, impairment of memory, giddiness, body swelling etc.

CHRONIC POISONING:

The sings and symptoms of chronic poisoning are: pruritus. eczema, liver damage causing jaundice, indigestion etc.

ANTIDOTES :

1. Cardamom and root of bryonia scabrella (4.2 gm each) are taken and decoction is made with sugar and alum. It is taken twice daily for 40 days.

2. If *pitha* exceeds with vomiting give pepper decoction.

3. For the *paadaana* poisonous cases, give pepper paste for curing the toxicity.

4. The *kalkam* of the indigo plant root can also be used (size of the areca nut) twice a day for curing *pitha* that exceeds with vomiting and in *paadaana* poisonous cases .

கேளப்பா வாந்தியுடன் பித்த மீறில்
கிருபையுடன் மிளகுநீர் குடிக்கத் தீரும்
வேளப்பா பாஷாணந் தின்ற பேர்க்கு
விதமாக மிளகொருசேர் தன்னை வாங்கி
நாளப்பா அரைத்தரத்தே யுள்ளுக் கீய
நன்மையுள்ள பாஷாணம் வீறு கெட்டுத்
தாளப்பா மலத்துடனே மலமாய்ப் போகுந்
தயவான மாற்றறிந்து தனதாய் நில்லே."

Though the arsenicus acid is used widely in *Siddha* medicine in the form of *parpa, chendoora* etc., the present concept in allopathy medicine is that the inorganic arsenical preparations should no longer be used in view of their toxicity. They were formally used internally as a solution or externally as oinments in the treatment of various skin diseases.

In allopathic medicine, the acute poisoning of arsenious acid is managed by immediate gastric aspiration and lavage. Activated charcoal may be used to reduce absorption. Chelation therapy with intramuscular dimercaprol is started immediately, oral treatment with penicillamine may be substituted for dimercaprol after the abdominal symptoms subside. If renal failure occurs haemodialysis may be required to remove any absorbed arsenic. Exchange blood transfusion may be required for severe liver damage. In chronic poisoning, pencillamine is the preferred drug.

IV. KAARA SAARAM

1. *APPALA KAARAM*

(Impure Sodium Carbonate -Dhobi's earth)

Impure sodium carbonate is known as *appala kaaram*. It is obtained from the soil of alkaline earth. This is dissolved in water filtered and filltrate is concentrated into semi-solid consistency. It is poured into plates and insolated.

It is pale yellow in colour. Since this is used in manufacture of papper (Appalam) it is known as appala Karam.It's actions are

i. Antacids
ii. Anti flatulence
iii. Carminative
iv. Lithotriptic
iv. Diuretics

General Properties:

Appala kaaram is effective in the treatment of throbbing pain, abdominal distension, gastric ulcer, *vatha* diseases, *kapha* diseases and *arthritis*.

"குடல்வாதஞ் சூலை கொடிதான வாதம்
அடல்புரியு மைய மடுக்கும் - நெடுவயிற்றின்
உப்புசத்தி னோட உயர்குன்ம நோயகற்று
மப்பளக் கார மது."

Usage:

1. *Appala kaaram* 2.1 to 4.2 gm is dissolved in water and for the above diseases.

2. Lemon fruit is cut into two parts and seeds are removed. One half of the fruit is placed over impure sodium carbonate powder and pressed well.

Dosage: One half piece.

Method of administration: It is given from the first day of menstruation consequently for three days only in the morning.

Indications: Dysmenhorrhoea, infertility.

APPALAKARA PARPAM

Appala Kaaram 210 gm is spread over a cow dung cake and put into *Gajapuda*. The parpam is collected after removing the ashes.

Dosage: 976 mg for 10days.

Adjuvant: Lemon juice

Indications: Stimulates appetite and *pitha vayu.*

Dietary regimen: *Ichcha pathyam*

2. *INDHUPPU*

(ROCK SALT- IMPURE SODIUM CHLORIDE)

Other names:

Cynthavam, Chindooram, Chandiranuppu, Mathi koormai, Mathiuppu, Minthachol.

This is taken out from earth spcially in the north west regions of Punjab and Sind (Pakistan). The out surface is greyish yellow which its inner core is white in colour; saline taste.

Synthetic preparation of Rock ralt:

Ingredients:

1. Potassium nitrate	175 gm.
2. Alum	175 gm.
3. Fuller's earth	105 gm.
4. Sea water	200 litre

Preparation:

The raw materials are made into powder. Sea water is boiled

in a new earthen pot till the water content are completely evaporates and salt is obtained. The salt 3.800 kg is placed in a thick bottomed earthen pot and heated with big fire over a sugarcane press hearth; when the salt melts the above salt powders are sprinkled in it and kindled well. After the pot cools the product hardens. This product is called as rock salt. If it is split it shines like diamond.

The crude camphour puts into the rocksalt destroys *Pooram* (subchloride of mercury) turns into *muppu* (three salts). The salt is a form of earth element.

1. Rock salt is kept soaked in vinegar (old rice fomented water) for three days and insolated to get purified and detoxified form.

2. The Rock salt is kept soaked in goat's urine for three days and insolated to get purified form.

Actions:

It has got luxative property. Its luxative property is superior than *"Cream of Tartar"*. This is given in doses of 4.2 gm or 8.4 gm, as a laxative. When given in doses of 16.8 gm or 21 gm, it produces watery diarrhoea. It is rarely given alone. It is often given along with powder of seed of clitoria ternatea (*Kaakkarattaan)*. It has also get flatulent, diuretic and appetite stimulant properties.

1. Laxative - dosage: 4.2 to 8.4 gm.
2. Purgative - dosage : 16.8 to 21 gm.
3. Carminative
4. Diuretic
5. Stomachic

It is given along with clitoria seeds (Clitoria ternatea) powder.

General properties:

Rock salt cures, eight types of gastric ulcer (*gunmum*), indigestion, blood diseases, *kaphapitha, kapathikkam*, nerves syphilis, derangement of three humors, constipation, poisons bite, spermatorrhoea, head , eye, tongue,tooth, skin,trunk, vagina diseases,delirium, cataract, polydepsia, asthma (dysponea), haemorrhoids, abscess, rat bite, scorpion bite, vatha pain, throbbing pain etc.,

Uses:

1. Rock salt is made into a paste and applied in case of sprain.
2. Hot fomentation of the rock salt can be taken for curing the painful swellings.
3. Rock salt is dissolved in warm water and administered to in duce vomitting.

PITHA KASHAYAM (DECOCTION)

1. Cassia senn a *(nilaa vaarai)*	6 gm
2. Pimpinella anisum *(Sombu)*	6 gm
3. Dried ginger (Zingiber officinalis)	6 gm
4. Coriander seeds (Coriandrum sativum)	6 gm
5. Water	325 ml.

Preparation :

The above drugs are pounded and added with water boiled. A decoction is prepared by reducing it into 160 ml. The boiled material are kindled well and filltered.

Adjuvant: Rock Salt powder 8.4 to 21gm.

Indication :

Indigestion, eye diseases, venereal ulcer, kapha pitham, rat poison. It is administered for inducing purgation.

INDHUPPU CHOORANAM

Ingredients:

1. Rock Salt	1 part
2. Cumin Seeds(Cuminum cyminum)	1 part
3. Bishop's weed (carum copticum)	4 part
4. Long pepper (Piper longum)	8 part
5. Dried Ginger (Zingiber officinalis)	16 part
6. Chebulic myrobalan (Terminalia chebula)	32 part

Preparation:

The above drugs are powdered individually and mixed together.

Dosage: 12 gm.

Indications : Indigestion, vomiting, ascites.

THENKAI CHAARAM

(COCONUT SALT)

Rock salt is filled in a waterfull coconut by making a hole. The hole is closed and sealed with mud packed cloth, dried and put to *puda* and the salt is taken out.This salt is effective in the treatment of abdominal pain and indigestion.

4. Rock salt is added in the *uppu mandooram, Sanga thiravagam* which is used in the treatment of Anasarca, Ascites.

1. Cassia senn a *(nilaa vaarai)*	1 part
2. Dried Ginger(Zingiber officinalis)	¼ part
3. Black pepper (Piper nigrum)	¼ part
4. Bishop's weed (Carum copticum)	¼ part
5. Embelia ribes	¼ part
6. Rock Salt	¼ part
7. Sugar	2 ¼ part

Preparation:

The above raw drugs are powdered individually and mixed together well.

Dosage: 4.2 to 8.4 gm.

Indications: Indigestion, abdominal colic, constipation.

3. *EVATCHAARAM*

(IMPURE POTASSIUM CARBONATE)

This is also known as wood salt *(Mara uppu)*. This is found in association with mineral substances and plant materials. At present, it is mainly obtained from the ashes of barley corn; the ashes are dissolved in water in the ratio of 1.4 and after three days placed in mud pot; the mud pot is then burnt till a waxy consistency develops. It is then insolated and collected.

Synthetic preparation of Impure potassium carbonate:

In Bogar's text book synthetic preparation has been mentioned as follows:

Ingredients:

1. Alum	70 gm
2. Copper sulphate	70 gm
3. Potassium nitrate	70 gm
4. Fuller's earth	350 gm
5. Water	1400 gm

Preparation:

The above raw drugs are powdered individually and mixed along with water in an earth pot and kindled well. It is placed in a cool place for 3 days. On the 4th day the clean water portion is filtered. The filterate is added little by little to the above mentioned salt and heated. The salt is formed in the bottom. This layer of salt will like teeth of the elephant. It will be solidified with Trianthema portulacastrum *(saranai)* and concentrrate acids.It will be consolidified with its chunnam.

Purification and detoxification:

1. This can be purified by triturating in white goat's urine for 72 minutes; it is then insolated to obtain purified form.

2. This is soaked in second time washed rice water for 24 minutes and insolated.

3. It is triturated with pure water for 24 minutes then bundled in a cloth. This bundle is soaked in limestone water and boiled for 24 hours to get purified form.

Actions:

Appetite stimulant, laxative , diuretics,antiinflammatory, convalescence

General Properties:

This is effective in diseases of the genitalia, neck, tongue, cheek and mouth, dysponea, cough , anorectal diseases, anasarca, poisonous bite, diarrhoea, gastric ulcer (gunmum), throbbing pain, obesity, vayu due to sense of heat, kapha diseases, indigestion, urinal retention and splenomegaly.

Dosage: 650 mg.

"குய்யம் களம்நா கொடிறுவா யிவ்விடதோ
யைய மிரைப்பிரும லாசனப்புண் - பையவுறு
கீடவிடஞ் சோபை கிராணியையும் பம்பரம்போ
லாடவிடு மெய்யவட்சா ரம்."

"அட்டகுன்மஞ் சூலை யதிதூல முட்டினத்தா
லொட்டிவரு வாத முதரநோய்- துட்டமந்தம்
நீடுகபம் நீரடைப்பு நீங்காப் பிலீகமிவை
யொடுமெவட் சாரத்தா லுன்."

Use of impure Potassium Carbonate:

1. The Salt and limestone are triturated with lemon juice and applied over the uvula to prevent the growth.

2. i. Impure potassium carbonate 650 gm
ii. Clove powder (Syzigium aromaticum) 325 mg
iii. Malabar nut leaf juice (Adathoda vasica) 10 drops

Impure potassium carbonate and clove powder are triturated with malabar nut juice and this is pasted over the betel leaf (Piper betle) and consumed.

Indication: Asthma

3. i. Impure potassium carbonate 5 parts
   ii. Rock Salt 5 parts
   iii. Dried ginger (Zingiber officinalis) 5 parts
   iv. Chebulic myrobalan (Terminalia chebula)10 parts

Dosage: 650 mg.

Adjuvants: Butter or water portion of milk, or gruel.

Indications:

Anorectal diseases, dysentery with blood stain, abdominal pain.

4. This salt is also effective in the control of polyphagia, polydipsia, retention of urine and anaemia.

5. It is dissolved in water and applied topically to control the skin diseases and pruritus.

6. If it is added in bathing, it cures venereal pains and red spots preseiding the pustulation in small pox.

7. The salt is heated in gingelly oil and applied over the enlarged lymphnode in plague ,covered with betel leaf and tied with sterilized cotton.

4. *EKAMBA CHAARAM*

SYNTHETIC PREPARATION OF EKAMBA CHAARAM

According to *Bogar* the method of preparation is as follows.

Ingredients:

1. Fuller's earth	560 gm.
2. Potassium nitrate	560 gm.
3. Borax	560 gm.
4. Alum	560 gm.
5. Rock salt	560 gm.
6. Salt ammonia	560 gm.

The above raw drugs are powdered and triturated with nitrict acid insolated and powdered.

The egg shells 280 gm. are powdered and kept in an earthen pot which the above powder is kept. Again covered with egg shells powder (280 gm).

The mouth of the pot is placed opposite to the mouth of another pot in which the juice of thorn apple (Datura metel) is applied and dried. This process is repeated for five times.

The mouths are sealed with mud pasted cloth and dried. It is heated and the sublimate *evatchaaram* is collected from the upper pot. It is white in colour.

This is used to unify the Navalogas. It is useful in *Vatha* diseases. Nowadays it is not used in medicine.

5. *KADAL NURAI - AGNIKAAI*

(SEA FROTH)

Other Names: *Agnikai, Vaarithi nanju, Meen nanju*

Bogar has mentioned about the formation of this foam as follows: When the aged crocodile who has lived in the sea for long period becomes debilitated, fire is formed in its abdomen; because of this, the crocodile will bring out mucus and die. The mucous which fell down in the sea is brought to the sea shore by the sea waves; this gets dried by the hot sun and this should be taken out without touching by hand.

The foam is available in four different colours .viz:

i. Black, ii.White, iii.Red and iv. Yellow.

Of these, the red variety is considered as best.

General properties: It cures eye diseases, ulcers, *kapha*, gastric ulcer.

Usage:

Sea froth Sugar candy	Both equal quantity

These are triturated with honey and applied on the eyes.

Indications:

Redness of eyes, eye pain, water discharge, diminished vision,opthalmic illness.

In Agathiar vaidhya kaaviyam 1500, it has been mentioned that when the *foam thailam* is applied over the body, it controls fever, excessive salivation and dryness.

6. *KANAVAAI ODU*

(CUTTLE FISH BONE OR OS SEPIAE)

This is a bone obtained from a species of sea fish. It contains calcium carbonate (80- 85%) and also phosphate and sulphate with silica. In Sanskrit it is know as *Samuthira peenam*. It is about 2.5 to 25 cm. length. It is flat in nature. One surface is rough, the other is smooth and hard. It can be easily powdered.

Action: Astringent. It is antacid like chalk, local sedative.

Uses:

1. The powder is applied in the ear to arrests pus discharge.

2. It is triturated with lemon juice or rose water and applied topically to cure the scabies, tinea and skin diseases.

3. The powder can also be used as a tooth powder and cleaning the vessels.

4. It is heated with gingelly oil and applied into the ear to cure the pus discharging from the ear.

5. It is triturated with rock salt in rose water and is used in eye diseases as a topical solution.

7. *GENTHI (GANTHAGA) UPPU*
(SULPHUR SALT)

Preparation:

1. Alum	1 part
2. Potassium nitrate	1 part
3. Bluish Sulphur	1 part
4. *Neelam* (compound of antimony sulphide)	1 part

The above drugs are powdered well. sea water is heated to get common salt. This salt (20 part) is heated and added with above powder. It is kindled well with an iron probe. It is allowed to cool and then the salt is taken out. This salt is used to prepare copper parpam.

Action: Carminative, stimulant.

General properties: It reduces obesity and cures hernia. It gives excessive body heat.

"உடல்கரையச் செய்துவிடு முட்டிணமாம் பொல்லாக்
குடல்வாதந் தன்னைவெட்டிக் கொல்லு- மடலாருந்
தந்திமத்த கத்தையடத் தாவிகொங்கை மாதரசே
கந்தியுப்பை நன்றாய்க் கழறு."

KARPAKIRAGANI MEZHUGU

Uses:

Sulphur salt	equal quantity
Hyoscyamus niger	equal quantity
Palm jaggery	equal quantity

The above drugs are triturated till it reaches wax consistency.

Dosage: Solanum pubescens-*Sundai kai* size twice a day.

Indications: Diarrhoea and dysentery that occurs in pregnancy.

GANTHAGA LAVANAM

1. Sulphur	350 gm.
2. Rock salt	350 gm
3 Potassium nitrate	350 gm
4. Glass gale	350 gm

The raw drugs are powdered and placed in an earthen pot and heated, It is kindled well and adding sulphur oil gradually and powdered. It is dissolved in 4 parts of water. On the 4th day it is filtered and the filtrate is boiled till the water contents are evaporates. Then it is replaced to another pot and insolated and salt is collected.

8. *KALLUPPU* (ASPHALT)

It is known as *Kadar kuruvi*. Asphalt is a natural salt which is found under the sea in the shape of rocks or hills. The crude salt is mixed with vinegar and then taken out after wiping out the help of the cloth; it is insolated to get pure form.

"பாரென்ற உப்புக்கு ஏழுகுண முண்டு
பாங்கான குறியெல்லாம் பகரக் கேளாய்
காரென்ற கரியில்வைத் துருக்கும் போது
கம்மினாற் சேறுபோ லுருகில் வற்றில்
பூரென்ற புத்தாகில் நெட்டிபோ லாகில்
பொங்கினால் விரிந்ததாற் குணமோ இல்லை
ஆறென்ற கட்டுக்கு அடையா ளந்தான்
அழுந்தியே கனமாகி லுருகிற் கேளே.

உருகினாற் பொன்போலே யாட வேணும்
உசத்தியா முத்துப்போ னிறமோ தோணும்
பருகிற் சுண்ணாம்பு போல வேதான்
பாக்குவெற் றிலையுடனே சிவப்போ காணும்
திருகினாற் கைதனிலே வயிரம் போலே
சிக்காம லுதிராமற் கனமோ பூணும்
முருகினா லொன்றுக்கு மாகா துப்பு
முதற்றமாங் கட்டினுடை முறையுமாமே.

Purification: It is dissolved in vinegar and clean with a cloth ,dried in sunshade.

General properties: It is effective in the treatment of *kapha*, prickling pain, loss of taste, *pitha,* vomiting, eight types of gastric ulcer, *vatha* diseases, dryness of tongue, constipation etc.

ஐயமறுங் சூலை யரோசிபித்தஞ் சத்தியொடு
வெய்யபிணி யட்டகுன்மம் விட்டேகும்- பெய்வளையே
வாதமதி தாகம் மலக்கட்டும் போமுலகிற்
கோதறுகல் லுப்பைக் கொடு."

KALLUPPU CHENDOORAM

1. Asphalt *(kalluppu)* 140 gm.
2. Mercury 35 gm
3. Sacred (juice) Aegle marmelos - *(Vilvam)* q.s
4. Sky lotus - Floating lotus (Pistia stratiotes) q.s

Asphalt and mercury is triturated with sacred juice for 6 hours. It is placed in an crucible and heated. Again it is powdered and triturated with sky lotus juice for 12 hours. Cakes are made, dried and sealed. It is put into muzha puda for 5 times.

Dosage: 488 mg.

Adjuvant: Honey

Indications: Eight types of gastric ulcers, heart burn (Hyper acidity), throbbing pain and dysmenorrhoea.

அறைகிறேன் லவணத்தின் சொந்தூ ரங்கேள்
அப்பனே கல்லுப்பு பலந்தா னாலு
கரைகிறேன் சூதமது பலந்தா னொன்று
கல்வத்தில் தானிட்டு வில்வச் சாற்றால்
மறையவே தானரைத் திரண்டு சாமம்
மார்க்கமாய்க் குகைவைத்துச் சொல்லக் கேளு
விரைகிறேன் போகருட கடாட்சத் தாலே.
விபரமுடன் புலிப்பாணி விளம்பக் கேளே.

கேளேதான் உலைவைத்துப் பழுக்க ஊதக்
கிருபையுட னுருகியது மணிபோ லாகும்
கேளேதான் வாராமல் ஆற விட்டுக்
கொற்றவனே கல்வமிட்டுப் பொடியாய்ச் செய்து

நாளேதான் அந்தரத்தா மரையின் சாற்றால்
    நால்சாமந் தானரைத்துப் பில்லை தட்டிப்
பாழேதான் போகாமல் காய வைத்துப்
    பக்குவமாய்ச் சில்லிட்டுப் புடமு மாமே.

ஆமேநீ முன்போலே ஐம்புட மிட்டால்
    அப்பனே செந்தூர மாகும் பாரு
தாமேநீ பணவெடைதான் தேனிற் கொள்ள
    தயவாகப் பணவெடைதான் தேனிற் கொள்ள
போமேநீ குன்மமென்ற தெட்டுந் தீரும்
    பொல்லாத நெஞ்செரிவு சூலை ரோகம்
பாமேநீ சூதகத்தின் வாயு தீரும்
    வல்லமையால் புலிப்பாணி வகுத்திட்டானே."

LAVANA PARPAM

1. Rock Salt — 35 gm.
2. Asphalt *(Kalluppu)* — 53 gm.
3. Thorn apple — 140 gm
4. Latex of milk hedge — 140 gm
5. Indian Acalypha juice (Acalypha indica) — 140 gm
6. Mudar latex (Calotropis gigantea) — 140gm

Rock salt and asphalt are triturated with the above liquids. cakes are made and put into *puda* process to get parpam.

Dosage: 488 mg.

Indication: Gastric ulcer, flatulence, *vayu.*

"இந்துப்புப் பல மொன்றிடு
    கல்லுப் பேயொன் றரையாகும்
பந்துா மத்தைக் கள்ளிப்பால்
    மேனியருக் கம்பால் நாலாகும்

தந்தனை விட்டரை வெவ்வேறு
    வில்லைசெய் தானே புடமாக்க
தொந்தனை நீறிது பணவெடைகொள்
    துயர்செய் குன்மம தோடிவிடும்

எந்தவ கைக்குள வாயுகளு
    மோடிடு மிதுவே சத்தியமாய்
ஐந்தெனு முப்பதி லிப்படி
    யேயரை பற்பம தாய்விடுமே."

In most of the time, asphalt is not used as such and is often used in combination with other drugs such as *panchalavana parpam*, *nava uppu mezhugu*, *gunma kudori*, *thayirchundi chooranam*.

9. *KARIYUPPU*

(SODIUM CHLORIDE - COMMON SALT - TABLE SALT)

Other Names :

Sotruppu, Kadaluppu, Veettuppu, Ilavanam and, Samudra lavanam.

Sodium chloride is obtained when the sea water evaporates by insolation.

Common salt is being cultivated in the eastern coast of Tamilnadu in the following places:

Cheyyur, Choonambedu, Marakkanam, Athiramapattinam, Arumuganeri and Tuticorin. It has white, pale and ash colour according to the cultivated land.

It has no odour. It is salty in taste and easily dissolves in water. It is not soluble in alcohol.

Actions : Stomachic, laxative, emetic, anthelmintic and febrifuge.

It is one of the essential substances of our body. It is excreted from the body by sweat, tears and urine. Deficiency of Sodium chloride in the body may lead to many diseases and even endanger of life. It induces the acid secretion of the stomach. People who are suffering from anaemia, obesity, G.I.Tract diseases, excessive thirst and skin diseases should take salt with caution. The sea salt contains a little amount of iodine and prevents goitre. When sodium chloride is taken in small amounts, stimulates appetite and causes thirst. When a concentrated solution is applied over the cut wounds, it produces irritation and inflammation. It also controls the secretion of the respiratory tract. Sodium chloride is mainly excreted through the urine. When given at a dose of 8.4 - 16.8 gm, it inducess vomiting and can

be used in the management of poisoning. When given in high doses it may produce diarrhoea.

General Properties :

Pitha vatham, lymphadenitis, tumour, *kapham*, liver disorders, eight types of gastric ulcer, indigestion, distended abdomen, *vayu* and retention of urine will be cured. Appetite will be increased.

"அளத்திலுறை நல்லுப் பனல்வாதம் மாற்றுங்
களத்துநோய் தன்னைக் களையுங் -கிளைத்தகப
ஆசுடைய வல்லைநோய் அஷ்டகுன்ம மும்போக்குங்
காசினியுள் மாதே கழறு."

"மந்தம் பொருமலறும் வாயுவும்போம்தீபனமாம்
தொந்தித்த ஐயந் தொடருமோ - சந்ததமும்
அக்கினியின் புஷ்டி அடருங் கறியுப்பால்
சிக்குகின்ற நீரிறங்குஞ் செப்பு."

Purification and detoxification of Common salt (Sodium chloride):

Method 1.

1. Sodium chloride	35 gm.
2. Red Indian water lily juice (Nymphaea odorata)	210 gm.
3. Black water Lily (Monochoria hastaefolia)	210 gm.
4. Rice washed water	210 gm.

Sodium chloride is kept soaked in red Indian water lily juice in the sun shade from morning to evening for 6 days. Everyday fresh juice should be added. It is then insolated for two days without adding juice and dried. This same process is repeated with the black water lily juice and rice washed water finally it is preserved for use.

Method 2.

2. Common alt	1 part
Vinegar (or) Pure water	7 parts

Common salt is dissolved in pure water or vinegar and filtered. The filterate is boiled till it reaches semi-solid consistency, then little amount of

lemon juice or butter milk is added to it and insolated.The same process is repeated for 10 times to get the purified form.

Method 3.

Common salt is dissolved in plantain stemp juice and filtered. The filterate is boiled till it reaches semi- solid consistency and little quantity of lemon juice is added and then insolated to get it purified.

Method 4.

Common salt is dissolved in sea water or rain water and filtered.The filterate is boiled till it reaches semi consistency state. It is dried in day light and it attains the solid state as purified salt.

UPPU PARPAM

Sodium chloride (35 gm.) is triturated with various juices as shown in the following table. Cakes are made, dried, sealed with mud pasted cloth and put to *puda* process to get the *parpam.*

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1. Whole plant juice of blue spiderwort - (Commelina benghalensis- *kaanan)*	140	4	3	1	32
2. Wild asparagus tuber juice- (Asparagus racemosus- *thanneer vittan kizhangu)*	105	6	5	1	27
3. Fig latex- (Ficus racemosa- *athhi*)	70	10	9	1	18

4. Aquatic root leaf juice (Aponogeton monostachyon- *kotti)*	35 .	12	11	1	16

Dosage: ¼ th size of a dhal for 32 days are advisable.

	Adjuvant	Curable diseases
1.	Hot water	Throbbing head ache, mental disorder, menorrhagia, ascites with pain and syncope due to excess *kapha.*
2.	Pepper and mustard powders are mixed with one gram salt *parpam* and dissolved in hot water.	Enlargement of spleen, vomit ing, asthma, cough, anaemia hiccough due to disfunction of *vatha pitha.*
3.	Honey	Paralysis, sprain, indigestion,dysponea due to excess *vatha.*
4.	Long- pepper powder	Opthalmic diseases, xerophthalmia, alopecia, delirium, tuberculosis due to disorder of *vatha, kapha* and *pitha.*
5.	Cow's sour butter milk	Peripheral neuritis, sense of heat, excessive salvation, scabies, eye diseases, dermatitis, eczema, tinea, itching, smallpox, anorectal diseases, sinusitis, indigestion due to excess pitha.
6.	Ginger juice	Hyperasthesia, heart attack, syncope, skin diseases, hansen's diseases.

7.	Greater galangal decoction with cooled water-(Alpinia galanga) *Perarathai*	Dysuria, oliguria, anuria, urinary tract Infections, abdominal pain Infections.
8.	Chebulic myrobalan with pure water (Terminalia chebula)	Dental diseases, gum diseases, glossitis, ulcer in the lips.
9.	Indian laburnum gum with water (Cassia fistula)	Diabetes, dysuria, veneral ulcer, polyuria.
10.	Mudar leaf juice with pure water (Calotropis gigantea)	Scorpion, snake, red venomous, centipede, crab, rabies poisonous bites.

"உலக மனைத்துமா முப்பின் பொடியினாற்
கலக விளைத்திரள் கட்டறுத் தோடு
மலக விடப்பிணி வாராது வந்திடி
னிலக வருத்திடு மிப்படி தானே."

Properties of *Uppu Parpam*

It improves digestion, strength and vitality of the body and the longevity as the boundless sea of salt water. It counteracts with the poisons caused by the three humours. It disintegrates the evil aspects from the body like a swan.

"அன்னஞ் செரிக்கு மசீரணமில் கோமுதலே
யன்னஞ் செரிக்கு மரந்தைகளே- யன்னமேயா
யுப்படலை யால்வளிக்கே யுப்படலை யால்வலிமை
யுப்படலை யாலதமையும்"

Uppu Parpam is superior than *vaithiyam* and *vatham*. It drives away all the diseases and it is an ambrosia and a protection sword of the patient.

வேதையென்றான் முதற்கருவி செயநீர் வைப்பு
வெளியாக்கு மடலையென்ற வீட்டுப் பாலே
நாதரெனு மகத்தியனு மறைந்தா னப்பா
நான்மறையை வெளிப்படையாய் நவின்றே னின்னம்

பாதையென்றா லதினாலே கெந்தி மையாம்
பாஷாண மெழுகுமது பண்ணச் செய்யும்
வாதையொன்று மில்லையடா வீட்டுப் பாலே
மகத்தான நவலோகம் வசிய மாமே."

(Konganavar Thirattu - 500)

UPPU CHENDOORAM

Method 1.

1. Purified and detoxified common salt 175 gm.
2. Sky lotus juice (Pistia stratiotes) 325 ml.

Common salt is triturated with sky lotus juice and made into small cakes, insolated, sealed and put into puda process with 10 cow dung cakes. The above process is repeated for 9 times. In each time the cow dung cakes are increased one by one upto 20 numbers in the *puda* process to get the *chendooram.*

Dosage : 65 mg to 130 mg. with suitable adjuvant.

Indications : Indigestion, gastric ulcer.

Method 2.

Uppu chendooram is prepared by following the above said process with juice of Indian sorrel (Oxalis corniculata) instead of sky lotus juice. This is specific drug for pitha *gunmam.*

Method 3.

Common salt chendooram is prepared with the worm killer juice (Aristolochia bracteata). This is specific drugs for dysmenorrhoea.

Method 4.

Common salt is triturated with the following juices and put into *puda* process for 2 times to get the *chendooram.*

1. Latex of mudar (Calotropis gigantea - *erukkam paal)*
2. Spiral spurge latex (Euphorbia tirucalli - *thirugu kalli paal)*
3. Thumba juice (Leucas aspera)

4. Stapping thumba juice (Trichodesma indicum - *kavizh thumbai)*

5. Bark of myrica juice (Terminalia arjuna- *marutham pattai)*

6. Indian aloes juice (Aloe vera - *kumari)*

7. Lemon juice (Citrus medica)

8. Prostate plant juice (Lippia nodiflora - *poduthalai)*

Dosage : 65 mg to 130 mg.

Adjuvant : Honey

Indications: Gastric ulcer, tuberculosis, throbbing pain, swelling, *vayu*, diarrhoea.

KARIYUPPU DHIRAVAGAM

(SODIUM CHLORIDE *DHIRAVAGA*)

Ingredients:

Purified Sodium chloride	280 gm.
Alum	210 gm.
Bengal gram vinegar (Cicer arietinum)	280 gm.

Purified sodium chloride and alum are powdered together and subjected to steam distillation along with Bengal gram vineger. The *dhravaga* which is collected from the distillation is called sodium chloride *dhravaga.*

Dosage: 5 drops mixed with water.

Indications : Dyspepsia, Indigestion, *vatha* diseases, weakness.

Miscellaneous uses of Sodium chloride:

1. The salt is triturated with water and applied on the site of the poisonous bite to reduce the poison.

2. The salt dissolved in water and instilled as drops to minimise the poisonous effect of the scorpion bite.

3. One teaspoon salt is dissolved in 546 ml. of hot water and gargled to reduce inflammation of throat and gingivitis.

4. It is used to give fomentation for swelling and pain. The salt (35 gm) is bundled in a cloth and dipped in boiling oil and applied over the swelling when it is warm.

5. An isotonic solution of sodium chloride in sterile water is given as intravenous infusion in case of severe diarahoea, with dehydration.

6. If the salt is placed and heated at the pricked sites of the pile and thorn, the toxicity will be cured.

7. Equal ratio of salt and tamarind are dissolved in water and boiled and the mixture is taken in semi-solid consistency and applied over the swelling and sprain by which haematoma will subside.

8. The salt is also used as one of the ingredients in tooth powders.

9. Insects entered in the ear, generaaive organs, anus will come out on spraying the salt water.

10. Dissolved salt water is given through the rectum to remove the worms in the large intestine.

11. The salt is also used as a preservative for fish, mutton and vegetables.

12. The salt is dissolved in water and given for the silver nitrated poisoning.

PROPERTIES OF SALT WATER:

It cures asthma, cough, vomiting, eye diseases, diarrhoea, hepatitis due to *vatha*, anasarca and gastric ulcer associated with fever.

"உப்புநீர்க் குணங்கள் தன்னை ஓதியே விளம்பக் கேளும்
நப்பிளைப் பிருமல் வாந்தி நயனரோ கங்கள் போகும்
செப்பினே ணதிசா ரங்கள் தேரணி லகுவை சோபை
வெப்புமேற் குன்மந் தீரும் மேதினியில் விளம்பு வாயே."

PROPERTIES OF SEA WATER:

Hansen's disease, body pain, throbbing pain due to traumatic haematoma, skin diseases, gastric ulcer, sense of heat, *vatha*, hepatomagaly, ascites and splenomegaly are cured by sea water.

"கடலின் புனலாற் கவிகை பெருநோய்
உடலில் கடுப்புதிரச் சூலையடர்குட்டம்
வாதகுன்மம் வெப்பிரத்த வாதநீ ராமை
கோதரம் பிலீகமறுங் கூறு."

10. *KAASI CHAARAM*

It is considered that this product was originated from the state *Kaasi* and hence named as *"Kaasi chaaram"*. No detail about the preparation and the use of this substance is available. This subtance as such also is not available nowadays. (Also it is mentioned as *Kaichu chaaram).*

But in T.V. Sambasivam pillai Dictionary, it is defined as "a salt prepared from a mixure of three salts viz:- Fuller's earth,Nitre and Salammoniac taken in equal quantities".

11. *KAICHU LAVANAM*

This is a salt mentioned in the second volum of *Bhoghar* 7000.

The black sand found in the sea shore is raised as sand barrel. Sea water is poured inside it. The water leading from this is collected and placed in a large pot and heated. Fuller's earth, glass gale and potasium nitrate (3.9 litre each) are dissolved in it with iron sulphate (280 gm) .On fourth day the semi solid obtained is poured on a mat and dried,which is called as *kaichulavanam* by which copper sulphate will be turned as *Guru.* It is useful for *vatha* disorders.

12. *SATHTHI CHAARAM*

It is otherwise known as *Suvar sigai.*

SYNTHETIC PREPARATION:

Ingredients:

Fuller's earth	130 litre
Limestone	65 litre
Soil falling from the wall	130 litre
Water	1300 litre

The fuller's earth and the limestone are mixed and kept in a holed straw barrel. Then the above said soil is dissolved in water and filtered. The filterate is boiled till it attains the wax consistency and made into pills and spread over a mat and allowed to cool. Then the salt is collected which is called as *Uppu sathicharam.*

Purification:

1. This is dissolved in vinegar or goat's urine for 3 days and insolated.

2. This is dissolved in goat's urine and filtered. The filterate is dried in sun light.

3. This is triturated with vinegar or cow's urine for 72 minutes and insolated to get purified.

GENERAL PROPERTIES:

Indigestion, constipation, aneuria, splenomegaly, pulmonary tuberculosis i.e. arthritis *(vatha)*, abdominal pain, ascites and diarrhoea.

"மந்தமொடு தங்கு மலசலம் பிலீகமடி
யுந்திவரு கின்ற வொலியிருமல் -குந்தலைக்கும்
வாதவலி குன்ம மகோதரங்கி ராணியும்போ
மோதுசத்தி ஷாரத்தை யுன்."

13. *SINDHUPPU*

(SINDHU LAVANAM)

Ingredients:

Salt obtained from mountain	3500 gm
Stag horn powder	3500 gm

Preparation:

Stag horn powder is divided into two parts. One part is kept in a thick bottomed earthen pot. The salt powder is placed over it and covered by the rest of the horn powder. The mouth of the pot is covered with another pot and sealed with mud pasted cloth. It is heated for 12 hours and allowed to cool. Thus obtained salt is added-with four parts of dews and boiled and insolated. The solid salt is collected.which is pungent in taste.

It is used to soldify the borax and red orpiment.

The salt is red in colour. The properties and uses of this preparation are similar to that of rock salt.

14. *CHEENA KAARAM*

(ALUMEN, ALUM)

(ALUMINIUM POTASSIUM SULPHATE)

Cheena kaaram otherwise known as *padikaaram, padigi* and *cheenam.* This is available in nature and found in combination with certain special form of clay in places such as Nepal, Kathiyawar, Punjab and Bihar.The Alum is separated from the clay. This appears like crystal and is white in colour. It has sweet, sour and also astringent taste.

Purification and detoxification:

The alum is dissolved in water,filtered, boiled when it attains consistency of jelly. It is cooled to get the purified form.

Actions: Astringent, antiseptic, antispasmodic.

Dosage: 650 mg. to 1.3 gm.

General Properties:

It cures, gingivitis, eye diseases,ophthalmia,elephantiasis, vayu, tumour, sene of heat,gastric ulcer,hypertension, haemorrhage,dysentery, diarrhoea, children's vomiting, diarrhoea, whooping cough, spittle cough with expectorant, pharyngitis, menorrhagia and gonorrhoea.

சீனமெனுங் காரமது சீறிவரு பல்லரணை
ஆனைக்கால் கண்ணோய் அனிலமொடு-மாநிலத்தில்
துன்மாங் கிசம்வாயு தோலாத உள்ளழலை
குன்மமிவை போக்குமெனக் கூறு.

Uses:

1. Alum (130 mg.) is dissolved in 1 ounce of water and on washing it controls eye diseases.

2. Alum (35 gm) dissolved in 10.4 litres of water is used as a mouth wash and for washing the ulcers.

3. When a cloth is soaked in alum dissolved water is applied over the cut injuries, it may arrests bleeding.

4. Alum, acacia catechu and bark of cinnamomum zeylanica (equal quantities) are powdered and mixed with 975 mg. of honey and given to control diarrhoea due to tuberculosis.

5.It also controls vomiting when given at a dose of 65 mg.

6. When the alum (195 gm) is dissolved in rose water (14ml) and administered twice daily, the cough associated with asthma is controlled.

7. Alum (65 to 130 mg) is dissolved in distilatted of (Trachyspermum ammi) bishop's weed *theeneer* and administered in whooping cough to control effectively.

8. For whooping cough and chronic hiccup that produce vomiting it is given with honey in the dose of 4 gm.

9. Alum (4.7gm) dissolved in butter milk is given for snake bite.

10. For severe head injury, alum (130 mg) is administered along with sugar.

11. Alum (2.6 gm) is given with sugar syrup for guinea worm infestation.

12. In leucorrhoea with bleeding, alum is given with the juice of Adathoda vasica thrice daily.

13. Alum is boiled along with milk and filtered; the filterate is effective in the management of excessive menstrual blood flow; it is also effective in the treatment of toxic fever and haemorrhoid.

14. Alum is dissolved in water and applied topically to control the bleeding in nose, teeth and penis.

15. Alum is used in hair dye preparations.

16. Alum is powdered and sprinkled on the pulp of aloes to get its juice.

The Aluminium utensils used in our homes contain alum;if these utensils are used frequently, they may cause toxic effects such as fatigue, constipation and loss of strength.

PADIKAARA PARPAM

The Alum dissolved in water is filtered using a thick cloth and poured over a porcelain vessel. The vessel is covered with the cloth and exposed to sun. The alum settles as stone. This is triturated with the white of hen's egg and put to *Kukkuda puda.*

Dosage: 130 mg to 520 mg.

Adjuvants: cow's butter, juices of aerva lanata *(chiru peelai),* Tribulus terrestris *(chiru nerinjil)*

Curable diseases: Absolute suppression of urine,dysuria,stricture of urethra.

PADIKAARA CHENDOORAM

Ingredients:

Alum	35 gm
Cinnabar	8.75 gm
Lemon juice	q.s

Purified alum is fried and powdered. It is triturated with *lemon juice* along with ¼ th of cinnabar and made into cakes and dried. Put into puda with 10 cow dung cakes and the process repeated for 4 times and the end of each *puda* adding ¼ th of cinnabar, equivalant weight of the resultant *puda.*

Dosage: 130 to 260 mg.

Adjuvants: Butter, ghee

Indications: Dysentery, blood stained dysentery and menhorrhagia.

PADIKAARA PATRU

Ingredients:

1. Peel of chebulic myrobalan (Terminalia chebula)
2. Alum
3. Exudate of (latex) small aloe
4. Lemon juice

Preparation:

The peel of chebulic myrobalan is made into fine powder and triturated with lemon juice, the other ingredients are kept in an iron ladle and powdered. Both are mixed and boiled till it reaches semi- soild consistency. It is applied around the eye to control redness of the eye and lactimated eye.

Note: The medicine will be spoiled if water is added.

The alum is also one of the ingredient of *lingathuvar* (that is used to control diarrhoea) and *Poongaavi chendooram* (that is used to control excessive menstrual bleeding).

15. *SOODAN*

(CAMPHOR)

Other names: *Karpooram, sudar kodiyon, pooram, deepam.*

Camphor is found in China, Japan, Sumithra, California. Natural camphor is present in the plant cinnamomum camphora. The natural crude camphor may be obtained by steam distillation of chips of the camphora tree; the crude camphor so obtained is purified usually by sublimation.

Properties of Camphor:

Camphor sublimation is mixed with lime and purified. It is white in colour, gracy in nature and has pleasant smell. It is not soluble but floats in water, and dissolves in air. It can be powdered. It is soluble in oil, arrack and gum.

It is triturted with sugar syrup (or) white of an egg with water can be mixed with water.

Taste: Salty and pungent.

Potency: Hot

Digested nutrient taste : Pungent

Actions:

1. Carminative
2. Stimulant
3. Hypnotic
4. Anodyne
5. Antispasmodic
6. Antiseptic
7. Anti convulsants
8. Expectorant
9. Spermatogenic
10. Sedative.

General Properties:

It cures, worm infection, rhinitis, convulsions, delirium, dyspepsia due to *vatha*, burns, hyperpyrexia, vomiting, *pitha, kapha vatha*, diseases of ear and face, postnatal eclampsia, wheezing, cardiac arrest, dysmenorrhoea, fissures, burning sensation in the penis due to venereal focus. hysteria, urinary tract infection, arthritis, chronic ulcer, diarrhoea,cholera, cough, tachycardia, whooping cough, spermatorrhoea, aphrodisiac.

Dosage: 65 mg to 325 mg. The dose may be increased up to 650 mg for serious disorders.

In children,camphor poisoning have been recorded when the dose exceeded 1 gm. There have been reports of instant collapse in infants following the local application of camphor to their nostrils.

Note : In excess dose camphor is toxic.There is a superstitious belief that if camphor is taken in plantain fruit in high doses,it may cause abortion.

Purification:

The impure camphor is soaked in red Indian water lily flower juice (Nymphaea alba) for 24 minutes and taken out dried in the sun shade to get purified.

Other uses of Camphor:

1.The camphor is powdered and applied over sprain, ulcer and in the areas of itching.

2. Camphor and cumin seeds (Cuminum cyminum) are powdered and bundled. Inhalation of this controls rhinitis.

3. *Kungiliya thailam* is mixed with small amount of camphor and applied as a fomentation over the inflammed joints, arthritis, sprain, muscular spasm and for bronchitis.

4. Small quantity of camphor mixed with tooth powder removes bad odour from the mouth and also caries infections of the tooth.

5. When camphor is powdered and sprinkled over the cloth, the cloth will not be attacked by insects.

KARPOORATHI CHOORANAM

Ingredients:

1. Camphor	10 gm
2. Nut meg (Myristica fragrans)	5 gm
3. Cardamom (Elettaria cardamomum)	5 gm
4. Clove (Syzygium aromaticum)	5 gm
5. Black pepper	5 gm
6. Sugar	30 gm

Raw drugs are powdered individually and mixed well together. This chooranam is used as an adjuvant for *poorana chandrodayam.*

Dosage: 650 mg to 1,300 mg.

KARPOORATHI MAATHIRAI

(CAMPHORATED TABLETS):

Method - 1

Ingredients:

1. Camphor	20 gm
2. Opium (Papaver somniferum)	10 gm
3. Honey	q.s

Camphor and opium are triturated with honey and made into pill and given at bed time to controls itching, chronic arthritis and spermatorrhoea.

Dosage: Not exceeding 97 mg.

Method - 2

Ingredients:

Camphor	10 gm.
Asafoetida	10 gm.

These are taken in equal quantity and triturated with honey and made into pills.(Pills should be in the weight of 195 mg).

Indications: Wheezing, indigestion.

Method - 3

Ingredients:

Camphor	10 gm.
Cinnabar	10 gm.
Bishop's weed (Trachyspermun ammi)	10 gm.
Honey	q.s

These are triturated with honey and made into pills to the size of a *kundri* seeds.

Dosage: 1 pills twice a day.

Indications: Diarrhoea, dysentery, gastric ulcer, throbbing pain.

KARPOORA NEER

(CAMPHORATED WATER)

Chebulic myrobalan (Terminalia chebula), Indian gooseberry (Emblica officinalis)and beleric myrobalan (Terminalia belerica) are soaked in water. Camphor is dissolved in it and used as an eye wash.

Miscellaneous uses of Camphor:

Camphor is also used as one of the ingredients in *saadhi sambeera kuzhumbu* which is used in fever, vomiting, diarrhoea and hypothermia.

This method of preparation and storage of camphor has been mentioned in the texts such as *Agathiar paripooranam,* and *Bhogar;s 7000.* Camphor is also useful in the treatment of headahce, and pulmonary dis-

eases. Camphor(28 gm) mixed in 560 ml of vinegar, and a cloth as soaked and is applied topically over the painful regions.

Camphor (325 mg) mixed with camphor parpa (325 mg) and little quantity of honey. Pills (2 nos) are made from these and given for every one hour along with castor oil or other *virasanadhi* to control convulsions occuring in pregnant women.

Camphor is dissolved in arrack or brandy for washing the bed sore ulcers. If it is taken as vapour bath of burnt comphor it causes sweating.

16. *THILA LAVANAM*

Ingredients:

Group - A

Gingelly oil plant burnt ash (Sesamum indicum)	64.5 litre
Water	258 litre

Group - B

Fuller's earth	3.9 litre
Common salt	3.9 litre
Potassium nitrate	3.9 litre

Gingelly oil plant ash is dissolved in water and kindled well. It is filtered and the filterate is poured into a centre pot in which the 'B' group powders are added to it and boiled well till it attains semi-solid consistency. Then it is insolated for 3 days. After the moisture is evaporated the blackish red coloured salt is preserved. It is used for preparing the lead *parpam*.

19. *NAVA UPPU MEZHUGU*

Group - A

Ingredients:

1.	Common salt	8.75 gm.
2.	An impure sodium chloride (induppu)	8.75 gm.
3.	Glass gale	8.75 gm.

4.	Pottassium nitrate	8.75 gm.
5.	Salt derived from urine	8.75 gm.
6.	Bamboo salt	8.75 gm.
7.	Rock salt (*kalluppu)*	8.75 gm.
8.	Rock salt *(paaraiuppu)*	8.75 gm.
9.	Fuller's earth	8.75 gm.
10.	Bitter apple juice - *Thummatti*	q.s
11.	Cow's milk	q.s
12.	Abutilon indicum- *Thuthi*	q.s

Group - B

1.	Perchloride of mercury *(veeram)*	35 gm.
2.	Camphor	17.5 gm

Trikadugu....

3.	Dried ginger (Zingiber officinalis)	12.6 gm
4.	Black pepper (Piper nigrum)	12.6 gm
5.	Long pepper (Piper longum)	12.6 gm
6.	Purging nut (Croton tiglium)	8.75 gm

Tripala.....

7.	Chebulic myrobalan (Terminalia chebula)	q.s
8.	Beleric myrobalan (Terminalia belerica)	q.s
9.	Indian gooseberry (Emblica officinalis)	q.s
10.	Mother's milk	q.s

Preparation:

Group 'A' Drugs are powdered and placed in an earthen pot and poured into it. Purified with bitter apple juice and cow's milk then filtered and boiled by kindling well with the root of Abutilon indicum till it reaches butter consistency. Then it is allowed to cool and powdered.

'B' Group drugs are powdered and added with 'A' group powder and triturated with the *tripala* decoction for 3 hours. Again triturated with mother's milk for 3 hours till it reaches waxy consistency and stored.

Dosage : Black pepper size - for 10 days.

Adjuvant : Palm jaggery

Indications:

Throbbing pain, ascites, gastric ulcer, lymphadenitis, venereal diseases, rhinitis, flatulence, virulence, hydrocele, rheumatism accompanied by fits, arthritis,chest pain, dysmenhorrhoea, eight types of gastric ulcer and paralysis.

Dietary regimen:

Rice with hot water, fried salt, cow's milk, diluted butter milk, greens, tender drumstick (Moringa oleifera), brinjal (Solanum melongena) lab lab been (lab lab purpureus), green gram (Vigna radiata), red gram (Cajanus cajan), hen and Quail.

Adjuvants:

Honey	Throbbing pain
Ginger juice	Delirium
Panchamoola kudineer	pyrexia

(Roots decoction of following five plants dried ginger,black pepper,small galangal, large galangal and knot plant)

18. *NAVACHAARAM*

(AMMONIUM CHLROIDE)

Other names : *Istigai, salligai, sooligai, padu.*

This is available in small quantities in brick stone furnace. This is also obtained by sublimation of coal, salt and dung ashes of camel. It has no smell; solid in state, fibre in nature and so it is hard to powder. It is dissoluble in water and alcohol.

Colour - White or grey colour.

Taste - Bitter, sour, urine smell.

Synthetic preparation of Ammonium chloride:

The sand available at the places where animals and humanbeings defecate is collected and placed in a pot. To one part of the sand, four parts of the urine is added; the clear liquid obtained is taken out. Camphor, alum and pottassium nitrate (3,500 gm each) are powdered and burnt and added

to 1,300 litre of the liquid. This mixture is poured in another pot and the pot is covered and subjected to sublimation. Ammonium chloride settles as a sublimate.

Purification and Detoxification:

The Ammonium chloride is dissolved in hot water and filtered. After it has cooled, it is poured in a broad mouthed vessel and insolated; the salt is formed in a purified form. It is preserved with small quantity of the root of jequirity in a bottle.

Other method:

It is dissolved in cow's urine and filtered. The filterate is boiled and insolated to get purified form.

Actions:

1.	Tonic	In a small doses given for a long period, improves the body strength.
2.	Stimulant	If given in high doses.
3.	Expectorant	
4.	Diaphoretic	It acts on the lymphatic channel and glands.
5.	Diuretic	
6.	Rubifacient	
7.	Pitha neutralizer	

GENERAL PROPERTIES:

Abdominal pain, distended abdomen, urinary calculus, bad odour in the skin, sinusitis, amenorrhoea, whooping cough, intermittent fever, three humours, indigestion, hepatomegaly, hepatitis, splenomegaly , rhinitis, tuberculosis, haematemesis, facial paralysis.

Dosage : 325 mg to 975 mg. If given in high doses it may produce diarrhoea..

"குன்மம் குடற்சூலை கொல்லும் மகோதரத்தை
வன்மையுறு கல்லடைப்பை மாற்றுங்காண் - சன்மக்
கவிச்சுமுத் தோடங் கனவாத நீக்கம்
நவச்சார மாதே நவில்."

Other uses:

i.	Ammonium chloride	4.2 g
ii .	Alcohol	28 ml.
iii.	Rose water	560 ml.

1. Ammonium chloride is dissolved in alcohol and rose water mixture. A cloth is soaked in this solution and applied over the mammary gland.

Indications: Suppression of the secretion of brest milk , breast enlargement, abscess in the breast and ulcer in the nipple.

2. Ammonium chloride 325 mg to 975 mg is dissolved in water and give 4 times a day.
Indications: **Facial palsy, lumbago.**

3. The salt may be taken in the root decoction of Indian sarasaparilla (Hemidesmus indicus) for chronic arthritis, diseases of tooth, chest pain and for tiredness due to excessive work.

4. The salt dissolved in camphorated water and administered twice daily for the diseases like flatulency, pain and swelling in the uterus, bilious vomiting and headache.

5. The ammonium chloride is dissolved in the root decoction of jequirty and given to the old age patients who are suffering from chronic cough in the dose of 4 to 5 times. The salt (8.4 gm) may be added to 500ml of boiled rice-gruel and may be taken in little by little for treatment of leucorrhoea, blood disorder, chronic dysentery, bronchitis, and diseases of stomach and urinary bladder.

6. The salt dissolved in the decoction of Hygrophila auriculata may act as a diuretic and may be effective in the treatment of jaundice, liver enlargement splenomegaly.

7. Ammonium chloride and potassium nitrate solution may be used for pain in the eye and excessive lacrimation.

8. Ammonium chloride is dissolved in water. A cloth is soaked in the solution and applied over the disease affected part.

Indications: Hydrocele, wound, sprain, swelling, hepatitis, abdominal tumour, an inflammation of the lymphatic gland etc.,

9. It is used in the preparation of philosopher's liquid.

Non-medical use of Ammonium chloride:

Ammonium chloride is used for welding of the metals such as tin,iron,copper and lead. It is also used in dyeing industry as a colouring agent.

Note:

In Allopathic medicine, it is considered that large dose of ammonium chloride may cause profound acidosis and may lead to hepatic encephalopathy; *this results from the inability of the liver to convert the increased* load of ammonium ions into urea. It is used in the treatment of severe metabloic alkalosis following prolonged vomiting and excessive diuresis. It is also used to maintain the urine at an acid pH in the treatment of some urinary tract disorders, or in forced acid diuresis procedures to aid the excretion of basic drugs such as Amphetamines, in severe cases of over dosage; it is given as 1 to 2 gm tablet in every six hours.

NAVACHARA AAKRAANAM

(Ammonium chloride snuff)

Method of preparation:

Ingredients :

1.	Ammonium chloride	35 gm
2.	European limestone	70 gm

The above drugs are dried with care, placed in sublimation apparatus and subjected to sublimation by burning *(kaadakkini)* when it's fume is inhaled, headache, rhnitis, syncope with pain, and cold are relieved.

It is otherwise known as *Aakrana uppu.* It is solid state; pleasa odour and pungent taste. It is soluble in cool water. It is not completely dissolved in alcohol. When it is kept exposed in air, the shining disappears and becomes powder. If it is heated in fire it disappears. If it is added with acids it dissolves with froth.

It's actions are antacid, expectorant, stimulant,and diaphoretic.

If it is given in excess it induces vomiting. Lethal doses causes poison toxicity.

General properties:

Throbbing pain, hyperacidity, hepatitis, pulmonary disease and measles are controlled.

Other properties and uses of Ammonium chloride snuff.

1. Expectorant
2. High stimulant
3. Diaphoretic

This is also effective in scabies, eczema, herpeszoster and hansen's diseases. It is also effective in epilepsy, puerperal psychosis, eclampsia, asthma,deep abscess of the thigh, menstruation hysteria and chronic cough.

It may be given upto 2.1 gm to induce vomiting and 650 mg. to arrest vomiting.

NAVACHARA KUZHAMBU

(AMMONIUM CHLORIDE *KUZHUMBU*)

Ingredients:

Ammonium chloride	35 gms
Latex of the milk hedge	q.s

Ammonium chloride is triturated in mortar with milky hedge latex. When a semi-solid consistency is attained, it is taken out and kept stored in a small container.

Usages:

This preparation is useful in the treatment of constipation, urinary retention, abdominal distention, *vayu*, anasarca and ascitis.

Dosage: 130 mg.

Antidote: Lemon

NAVACHAARA ENNEI

(AMMONIUM CHLORIDE OIL)

Ammonium chloride and hygrophila auriculata juice are *(neermulli)* mixed in oil and taken internally. This preparation is useful in the manage-

ment if ascites, anasarca, eight types of gastric ulcers, *pitha*, jaundice, anaemia, erysipilas, dropsy, eczema, chronic constipation and worms infestation.

NAVACHARA CHENDOORAM

Ingredients:

1.	Mercury	350 gm
2.	Sulphur	350 gm
3.	Ammonium chloride	175 gm
4.	Drumstick flower juice	q.s

The raw drugs are triturated with drumstick flower juice for 36 hours and dried in shade. The resultant product is then collected in a bottle. The bottle is closed by a slate stone and sealed with seven layers of mud pasted cloth. Earthen vessel with thick base is taken and salt is kept in the vessel upto 3 finger height. The bottle is then placed in the vessel. Salt and sand is placed around the bottle and the vessel is covered with another vessel with the mouth opposing the other. Both the vessels are then sealed with mud pasted cloth. The vessel is heated over a hearth for 12 hours. The *chendooram* is formed with dark red in colour.

This *chendooram* is useful in the treatment of ulcer, colic and for Paralysis of the limbs and throbbing pain.

NAVACHARA KATTU

Ingredients:

Group - A

1.	Fuller's earth	35 gms
2.	Alum	35 gms
3.	Borax	35 gms
4.	Common salt	35 gms
5.	Pottasium nitrate	35 gms

Group - B

6.	Lemon juice	q.s
7.	Honey	q.s
8.	Limestone	q.s

Preparation: Group- 'A' drugs are triturated with lemon juice till it becomes solid matter.

Limestone is triturated with honey and made into a paste. 'A' group mixture is covered by the above paste and insolated.

Half portion of the earthen pot filled by iron powder on which the above processed ammonium chloride mixture is placed. Again it is covered by the iron powder. The earthen pot is covered by another earthen pot and sealed with mud pasted cloth and dried. It is heated for 6 hours.

Dosage: 488 mg.

Adjuvants : Honey, Indian aloes juice.

Indications : Anaemia, jaundice, white discharge.

19. *PACHCHAI KARPOORAM*

(BORNEO CAMPHOR)

Borneo camphor is one of the twenty five types of *Karasaara.*

Other names:

Imavalugam, kathaliuppu, kelithipachchai, sasi, chandran, somanuppu, seethalam, seetha karpooram, pachchai karpooram, paligai, paarmagan saari, pooram, mathi, maruvaali, vintham, viralipachchai, iravikanji and *pachchai ganasaram.*

It is soluble in atmospheric air. It has pleasant odour. Cooling agent.It is considered that there are three types of Borneo camphor.

1. Esan *2. Veeman* *3. Poothachirayan.*

General Properties of *Esan* camphor:

This is effective in *kapha* fever, *pitha*, giddiness and diseases of the nose and polydipsia. It is white in colour and sour in taste.

"ஈசனென்னும் பூரவெண்மை யென்பரது காரமுமாம்
பேசரிய சீதமுஷ்ணம் பித்தமயல் - வீசுகின்ற
பீநசமுட் டாகமிவை போர்த்துவிடுங் காந்தியுண்
டான ததுவசிய மாம்."

General properties of *Veeman* camphor:

This is demulcent and a tonic. It is effective in glossitis, polydipsia and vomiting.

"வீமனெனுங் கர்ப்பூரம் மேக வழுக்கு வெண்மை
சேம முறுங்குளிர்ச்சி தின்றக்கா - ணாமருவு
நோயகலுந் தாகமறும் நுண்பே தியுமாகுந்
தூய மதிமுகத்தாய் சொல்."

General properties of *Poothasirayan* camphor:

This is effective in controlling of cough, *vatha*, *pitha*, *kapha* dosas, three humours, itching and ulcers. If it is added as an adjuvant with the medicines intended for women, it will give best result.

General properties and uses of Borneo camphor:

The borneo camphor is effective in eight types of gastric ulcers, *vatha* disease and joint pains and *kapha*.

"அட்டகுன்மஞ் சூலை யணுகாது வாதமொடு
துட்டமே கப்பிணியுந் தோற்றாதே - மட்டலருங்
கூந்தலுடை மாதே கொடியகபம் போகுஞ்
சார்பச்சைக் கர்ப்பூரத் தால்."

This has astringent and salty taste. It's potency is cold, and has expectorant tonic, and demulcent properties.

Dosage : 8 mg to 162 mg.

Purification:

It is soaked in red Indian water lily flower juice (Nymphaea odorata) for 24 minutes and insolated to get purified .

Usage: 1

1. Borneo camphor
2. Saffron (Crocas sativum) flower
3. Clove (Syzygium aromaticum)
4. Betel leaf stem (Piper betle)

These are triturated with mother's milk. A cloth is soaked in the above mixture and applied over the fore head.

Indication: Fever.

2. 1. Borneo camphor 32 mg.

2. Sandal paste(Santalum album) 35 gm.

It is mixed with sandal paste and applied over the body. It gives demulcent (cooling) effect to the body.

Indications: Scabies, bad odour due to excess sweating. It controls leucorrhoea as an internal medicine.

3. In olden days, borneo camphor has been used for improving the spermatogenesis.

4. Borneo camphor along with musk gives stimulant actionand cures fever due to *kapha vatha*, cough, asthma, pulmonary diseases.

PACHCHAI KARPOORA VADAGAM

(Borneo Camphor Vadagam)

Ingredients:

1.	Borneo camphor	10 gm
2.	Sandal powder (sandalum album)	20 gm
3.	cardamom (Elettaria cardamomum)	30 gm
4.	Greater galangal (Alpinia galanga)	40 gm

These are powdered and triturated with the juice of basil (Ocimum sanctum) Solanum torvum *(sundai)* size *vadagam* is made of this and dried in the shade. This preparation is useful in the treatment of fever, cough and arthritis.

Dosage : One *vadagam*.

PATCHAI KARPOORA ANJANA KULIGAI

Ingredients :

1.	Borneo camphor	10 gm
2.	Cumin Seeds (Cuminum cyminum)	20 gm
3.	Clearing nut paste (Srychnos potatorum)	30 gm
4.	Tripalai decoction - Three myrobalan	q.s

The above drugs are triturated with decoction of three myrobalan for 2 or 3 days and dried in shade and made into pills , dissolved in mother's milk or honey and the pills are instilled into the eye, eye diseases for burning of eye and headache.

PACHCHAI KARPOORA MAATHIRAI

(Borneo camphor tablet):

Ingredients :

1.	Borneo camphor	10 gm
2.	Clove (Syzigium aromaticum)	10 gm
3.	Nut meg (Myristica fragrans)	10 gm
4.	Mercury parpam	10 gm
5.	Sulphur	10 gm
6.	Purging nut (Croton tiglium)	10 gm
7.	Indian aloes juice (Aloe vera)	q.s

Preparation :

Raw drugs are triturated with Indian aloes juice and made into black gram size tablets.

Dosage : One tablet.

Adjuvants : Honey (or) ginger juice for 3 days.

Indications : Sense of heat, fever, vatha 80, pitha 40 and kapha 96.

PACCHAI KARPOORA PODI

(Borneo camphor powder)

Ingredients:

1. Dried ginger (Zingiber officinale)	10 gm
2. Black pepper (Piper nigrum)	10 gm
3. Long pepper (Piper longum)	10 gm
4. Root of long pepper (modi)	10 gm
5. Costus speciosus	10 gm
6. Indian goose berry (Emblica officinalis)	10 gm
7. Cumin seeds (Cuminum cyminum)	10 gm
8. Cardomom (Electaria cardamomum)	10 gm
9 Borneo camphor	10 gm
10. Sandal (Sandalum album)	10 gm
11 East Himalayan fir (Abies spectabilis)	10 gm
12. Valerina (Nardostachys grandiflora)	10 gm
13. Clove (Syzigium aromaticum)	10 gm

These are powdered and mixed well.

Dosage: Three pinches twice a day for 20 days.

Ajuvant: Sugar

Curable diseases: *Pitha,* loss of appetite, haemorrhage and vomiting.

No diet restricion.

Synthetic preparation of borneo camphor said in *Agathiyar - 400.*

Ingredients:

1. Camphor	35 gm.
2. Pottassium nitrate	157. 5 gm.
3. Salt	17.5 gm.
4. Civet secretion	2.5 gm.
5. Cardamom	2.5 gm.
6. Musk	2.5 gm.

The above drugs are triturated in a mortar and mixed with sandal oil and half portion of which is placed in a bottle. It is coverd with a slate stone and sealed with 7 layers of mud pasted cloth. Sand is filledup to half portion of valuga equipment and the bottle is kept on it. In addition to filling of the sand, close with a tile, covered with a mud pasted cloth and dried. It is heated for 3 hours and then preserved after cooling. It's smell will resumble the lotus and water lily.

Indications: Dysuria, calculus and pitha.

20. *PANCHA LAVANAM*

This is a combination of five different types of salts.

They are:

1. Sodium chloride
2. Rock salt
3. Mineral salt *(Kalluppu)*
4. Glass gale
5. Potassium nitrate

GENERAL PROPERTIES OF *PANCHA LAVANAM:*

This is effective in the treatment of anasarca, chest pain, ulcer, chronic diarrhoea, enlargement of liver, dyspepsia, *vayu,* abdominal disease due to *kapha* and throbbing pain.

"நீராமை அற்புதப்புண் நெஞ்சுவலி மாகுன்மம்
பேராக் கிரகணிபி லீக மந்தம் - தீராக்கால்
விஞ்சவுப்பைக் குக்கிநோய் மெய்ச்சூலை யும்பறக்கும்
பஞ்ச வுப்பைத் தின்னுங்கால் பார்"

PANCHALAVANA PARPAM

Ingredients:

1.	Sodium chloride	8.75 gm
2.	Rock salt	8.75 gm
3.	Glass gale	8.75 gm
4.	Mineral salt	8.75 gm
5.	Potassium nitrate	8.75 gm

Juices:

1. Bone setter juice (Cissus quadrangularis)
2. Indian acalypha juice (Acalypha indica)
3. Drumstick bark (Moringa oleifera)
4. Five leaved chaste tree (Vitex nengundo)
5. Indian aloes (Aloe vera)

The above said *panchalavanas* are triturated individually for three hours with the above said juices and made into cakes, dried , kept in a tile and sealed with mud pasted clothp put into *puda* process with 10 cow dung cakes and preserved. Add asafoetida (Ferula asafoetida) equal to one fourth quantity of the above *parpam* and triturate with honey till it attains semi solid consistency and preserve in a clay vessel.

Dosage : 5.1 gm for 12 days or 24 days.

Indications: Rheumatic diseases,gnawing pain, colic, tenesmus, gastric ulcer, hydrocele, diarrhoea, fistula, chest pain, enteritis, abdominal distention, indigestion, dyspepsia.

PANCHALAVANA CHUNNAM

Ingredients:

1.	Soap	35 gm.
2.	Glass gale	8.75 gm.
3.	Rock salt	8.75 gm.
4.	Borax	8.75 gm.
5.	Sodium chloride	8.75 gm.
6.	Urine	q.s

The above salts are triturated with urine. Cakes are made, dried and placed in a dry shell and then put to puda with 5 cow dung cakes.

Dosage : 650 mg to 1300 mg.

This chunnam is useful in the treatment of abdominal pain, gastric ulcler, fever abscess and ameneorrhoea.

It is also an essential ingredient of some compound medicines such as *thayirchundi chooranam, Kunma kudori legiyam.*

21. PIDAA LAVANAM (BLACK SALT)

Ingredients:

1. Pottasium nitrate	3500 gm
2. Baffalo horn powder	1750 gm
2. Alum	525 gm
4. Water	

Preparation:

Potassium nitrate is heated in a pot. At the time of melting the horn powder are added gradually and finely powdered. It is dissolved in 4 parts water equalent to the above powder with 525gm. powdered alum is mixed boiled and filtered. The filterate is repeated once and heated till it attains semi-solid consistency. This is poured in a mat and insolated. The resulant product is hard in nature which is called *pidalavanam.*

Zinc can be made into parpam with the help of *pida lavanam.*

Another method:

Ingredients :

1. Sodium chloride	1. 575 gm
2. Dried Indian gooseberry	43.75 gm

The raw drugs are powdered and divided into 4 parts. One part of this mixture is burnt in a mudpot; another part of the mixture is placed over this and then burnt; thus all the four parts of the mixture are burnt. 144 minutes after cooling, the black salt will be found. This salt is called *Krishna lavanam.*

Action: Tonic, laxative, alternative and stomachic.

Properties:

Indigestion, hepatomegaly, splenomegaly, constipation, abdomen distended and abdominal pain.

Colour : Black

Potency : Hot

Dosage : 4.2 gm

Purification:

The salt is kept soaked in cow's butter milk or cow's urine and insolated to get it purified.

General properties of Black Salt:

The salt relieveds polyuria, indigestion,and stimulates appetite. It cures *kapha* diseases since it has hot potency.

The five kinds of salts *(pida lavanam)* are taken in equal quantity and powdered.

Dosage: 130 mg to 260 mg.

Adjuvant: Hot water

Curable diseases: Urinary tract infections (calculus) and constipation.

SOTRU UPPATHI CHOORANAM

(PIDA LAVANA CHOORANAM)

Ingredients:

1.	Sodium chloride	8 parts
2.	Mineral salt *(kalluppu)*	5 "
3.	Black salt *(pida lavanam)*	2 "
4.	Rock salt	2 "
5.	Coriander seeds (Coriandrum sativum)	2 "
6.	Long pepper (Piper Longum)	2 "
7.	Root of long pepper	2 "
8.	Black cumin seeds (Nigella sativa)	2 "
9.	Pogostemon patchouli *(pachilai)*	2 "
10.	Ceylon iron wood (Musea nagassarium-*siru nagapoo)*	2 "
11.	East Himalayan fir (Abies spectabilis)	2 "
12.	Indian laburnum fruit (Cassia fistula)	2 "
13.	Black pepper (Piper nigrum)	1 "
14.	Cumin seeds (Cuminum cyminum)	1 "

15.	Dried ginger (Zingiber officinale)	1	parts
16.	Epicap of the pomegranate fruits (Punica granatum)	4	”
17.	Cinnamon bark (Cinnamomum zeylanica)	¼	”
18.	Cardomom seeds (Elettaria cardamomum)	¼	”

Preparation :

The above ingredients are powdered individually and mixed altogether and preserved.

Dosage : 1.3 gm to 2.6 gm

Adjuvants : Hot water, butter milk

Indications : Diarrhoea, gastric ulcer, ascites, splenomegaly, anorectal diseases, constipation and throbbing pain.

Action: Stomachic, carminative

22. *POONEERU*

(FULLER'S EARTH - IMPURE SODIUM CARBONATE)

Other name : *Poovazhalai.*

This is present in brackish soil. It is considered that the fuller's earth should be collected from brackish soil during winter season (mid march to mid june) and in the early morning before the sunrise. It is collected from Sivaganga, Kalasthiri, Mosur from the earth in the dew season, before sunrise.

"பார்த்திட்ட பூநீற்றின் பருவங்கேளு
பங்குனியுஞ் சித்திரைவை காசிக்குள்ளே
பூர்த்திட்ட ரவிசுருக்கிற் பொங்கிருநீறும்
பூப்போன்மே னிற்குமதை வாரிக்கொள்ளு."

"பனி பெய்யுங் காலம்
பாருங்களர் மண்ணில்
பூநீறாய் புனிதமாய்ப் பிறக்கும்"

"சரிவிடியற்காலம்
அந்த முள்ள பானு அது முகம் படுமுன்
சொந்தமென்று பூவைத்
தொட்டெடுப்பாய் நீயே."

Purification:

Fuller's earth 1.3 litre is soaked in dew's water 5.2 litre and allow to settle. Next morning it is churned well and the outer cream layer is removed. The remaining mixture is in porcelain plates and insolated to obtain purified form. This process is called *"Theetchai"* This process is repeated for ten times and stored in a bottle.

"பூருவத்தின் சுத்தி பூவெடுக்கும் சித்தி
மாறுந்தேய் பிறையில் மன்னுசிவன் கூறு
பாருமோர் படிக்குப் பனிச்சலந்தா னாலு
மாறுயது பாண்டம் அவை தெளியு மட்டும்"

"காலையி லிறுத்துக் கடைந்தாடை போக்கி
வாலையிலே விட்டு வற்றுமட்டும் வெய்யில்
சூலதுபோல் காய்ந்து சுண்டியநீ ரெல்லாம்
கோலமிது வாகுங் கொடிய முதல் தீட்சை"

According to Bogar fuller's earth is dissolved in lemon juice and filtered. The filterate is boiled till the water completely evaporates to get purified form.

"பூர்த்திட்டே ரவிசுருக்கிற் பொங்கி நீறும்
பூப்போன்மே னிற்குமதை வாரிக்கொள்ளு
ஏர்த்திட்ட எலுமிச்சைச் சாறுவிட்டு
இழுத்துமே கரைத்து நன்றாய் தெளிவை வாங்கி
ஆர்த்திட்ட அடுப்புக்குள் வைத்துக் காய்ச்சில்
அடங்கியே யுப்பாகும் பருவம் வாங்கே".

Uses:

1. Fuller's earth and limestone are added in equal ratio and obtained clear water solution. The solution is used to purify the tortoise shell,.egg shell pearl oyster, asbestos, forsil of crab and conch shell.

The above materials are individually kept with the above said solution and boiled to get purified form.

Arsenic compound may be purified with the solution.

2. Fuller's earth is mixed with hot water. To curing the, arthritis in the ankle joint and the foot is kept in the above solution for sometimes.

3. Fuller's earth in space basic element in nature.

4. It is used in the preparation of *Gunmakudori mezhugu, thayirchundi chooranam, oosaraparpam.*

5. Oily substance cf the fuller's earth is removed and then made into chunnam and it is aded to some m.dicine to promote the action of the medicines.

6. Chunnam, Philosopher's acid is mentioned in

i. *Gnanave'tiyan*

ii. *Navarathin Vaithiya Chintamani,*

iii. *Panchar athinam 500*

iv. *Bohar 7000 - II chapter,*

v. *Sattamunivatha kaviyam*

vi. *Eani eattrum.*

Theraiyar in his *sekarappa* and venba has described the methods of to make balls by fusing the mercury and to prepare fuller's earth by artificial methods.

23. *AMBAR*

(AMBRA GRASEA OR YELLOWISH FOSSIL RESIN)

Ambra grasea is an excretory product of intestine of whales. This is found in the sea shore of Africa, Arabia, Phillipines, Maldives, Japan and Madacascar etc. This is easily inflammable and acquires a pleasant smell on drying; it is soluble in hot water and alcohol ; insoluble in cold water. In its fresh state it produces bad odour after getting solidity by exposing air. It produces musk like smell and tasteless.

Colour : Black (or) pale white.

Ambra grasea is available in two types. They are.,

1. *Ponnamber* and 2. *Meenamber*

"மகத்தான பட்சியதின் மலக்க ணந்தான்
கவனமாம் பட்சியது ஆகாசம் நின்று கபளித்த
மலக்கனம் பொன்னம்ப ராச்சு
புவனமாங் கடல் நின்று கரையிற் றங்கிப்
பேராகக் கட்டியா யொதுங்கிப் போகும்."

"தீயென்ற மீனம்பர் செயலைக்கேளு
சேர்ந்த பட்சி மலக்கனந்தான் கடலில் வீழ்ந்து
பாயென்ற மீன்புசித்து மீனம்பராச்சு."

It is considered that Ambra grasea is formed in the sea by various methods as follows.

1. The animals living in the sea consume a special type of plant material and after their stomach is filled, they regurgitate the plant material which becomes the Ambra grasea.

2. The sea fish consume a special type of sea plant and died. Ambra grasea is collected from the dead fish.

3. It is also considered that it is an excretion of a type of sea cow known as "Sara"

4. It is also considered that the sea water froth becomes the Ambra grasea.

5. It is also considered that the resin obtained from certain trees inside the sea becomes the Ambra grasea.

6. The bee hives raised on the sea rocks by the bees often scatterd by the waves, and so attain differant shapes.

7. It is produced due to earthquake in the sea.

8. Dews are freezed in the sea shore, that is called Ambra grasea.

9. Leakage from the sea rock.

Nature of Ambra grasea:

Good quality is soft, gracy, easily breakable. It is in the layer form, yellow colour (or) whitish yellow (or) wheat husk colour. Greenish yellow, black colour Ambra grasea is slightly low quality.

Limestone, wax, fat materials, black colour, Ambra grasea are adulterated to the Ambra grasea.

Good Quality	Fake
1. It is soft and gracy	It is hard when it is chewing when it is chewing.
2. If put into fire it produce pleasant smoke.	Do not produce any smell or flame,.
3. It is not completely burnt residual may be present.	It is completely burnt
4. Tasteless	Bitter taste
5. It gets waxy consistency if it is pounded.	It becomes granules if it is powdered.
6. If burnt, ashes are soft	Ash is hard and gracy.
7. If it is heated it will not boil with bubbles.	If heated it will boil with residual sedimentation.
8. No smell if it is put into heat and produces pleasant smell.	
9. Red hot needle is soaked in it, produce smoke with pleasant smell.	

Potency : Hot, dry nature

Actions : Stimulant, anti convulsive, aphrodisiac and tonic.

General Properties:

Ambar acts as spermatogenesis. It gives strength beauty and stamina to the body. It removes ulcer and eczema. It strengthens vital organs such as heart, brain and seven physical constituents. It cures epilepsy, nervous debility, fever, delirium, pulmonary diseases,cholera, diarrhoea, and tiredness due to sexual contact. It is very helpful to the aged persons associated with cool physical body, hemiplegia, facial palsy, tetanus, headache, infertility, mental disorders, otalgia, heart diseases, palpitation, jaundice, ascites, splenomegaly, renal diseases, arthritis, myolgia and the diseases of the G.I. Tract.

Dosage : 325 mg to 975 mg.

Uses:

1. It dissolved in alcohol is used as perfume.
2. It is consumed along with betel leaf for *kapha* diseases and with sheets of refined gold with honey to give strength to the body.
3. It is given along with clove or nutmeg powder for *vatha* diseases.
4. It is given with ghee for removing toxic effects.
5. It is given with bacoba Juice (Bacoba monnieri)or honey for men tal disorder *(piramai)*.
6. A medicated ghee prepared from musk, ambra rasea saffron (Crocus sativus), purified cinnabar with betel leaf juice (Piper betle) are given for improving the memory power.
7. It is mixed with betel leaf juice and applied over the body to re move the bad odour due to excess perspiration.
8. It is mixed with mildly heated oil and used as nasal drops for Sinusitis and rhinitis.
9. It is put into fire and the smoke is inhaled for migrine.
10. It is applied over the penis to strengthen it.
11. It is mixed with other medicines to improve the strength of the medicine.

AMBRA GRASEA MAATHIRAI

Ingredients:

1.	Ambra grasea	12gm.
2.	Bamboo salt (Bambusa arundinacea)	36 gm
3.	Babool gum	12 gm

Preparation:

Bamboo salt and babool gum are triturated adding ambra grasea with rose water and again triturated well and made into pills of pepper size and dried in shadow.

Dosage: One - twice a day.

Indications: *Kapha vatha* diseases, asthma and *kapha* diseases. Ambra gresea should not be administered to persons with gastro intestinal disorders.

If ambra gr^sea is not available, musk 1/3 and saffron flower 1/6 parts can be used instead of ambra grasea.

Antidotes to Ambra grasea:

1. Nausea, delirium due to smelling ambra grasea will remove by smelling camphor.

2. Ill effects caused by ambra grasea will subside by the bamboo salt along with coriander seeds (Coriander sativum).

Note: Bamboo salt has cool potency.

The word 'Ambar' is orginally derived from Arabic. It is considered that this substance reached India many centuries ago when the ancient Tamilians had commercial contact with the Arabians.

24. *VALAIYALUPPU* (GLASS GALE)

Other name: *Madavaar karaththuppu.*

The glass gale is obtained in nature from the soil which is used to make bangles as explained in the following Tamil verse:

"குழைந்து நின்ற பூநீற்றைக் காய்ச்சும் போது
குறியகரு மேகம்பொன் மேலெ ழும்பும்
உறைந்துநின்ற உப்பெல்லா மேலெ ழும்பி
உருவாகத் தெல்லுப்போ லுப்பாய் நிற்கும்
வரைந்துநின்ற வளையலுப் பென்னும் பேரு
மகத்தான அக்கினியைச் செயித்த வுப்பே". *(Bogar)*

Purification:

1. It is soaked in vinegar for 90 minutes and insolated to get it purified.

2. It is dissolved in vinegar and filtered and the filterate is insolated to get it in purified form.

General Properties:

It cures enteritis, hernia, vathapitham, wheezing (dysponea), abdominal pain,arthritis,fever and splenomegaly as explained in the following Tamil verse.

"துளையார் குடல்வாதத் தொந்தவா தத்தோ
டிளையாச் சுவாசமறு மின்னும் -வளையலுப்பாற்-
குன்மவலி சூலைவெப்பங் கூறாப்பி லீகமிவை
சென்மம்விட் டோடுமெனத் தேர்"

Uses: This is mainly used as an ingredient in preparing *Gunma kudori leghiyam* and *Nava uppu mezhugu.*

25. *VENNKARAM*

(BORAX - SODIUM BIBORATE)

Other names: *Porikaram, Karam, Urukkinam, Urukkumithiran, Danganam, Thoomathaiyadakki.*

Borax is obtained is California abundantantly. It is also found in Tibet and Nepal. Naturally it is obtained along with sand and dust.

The borax available in shops is not pure. Hence four parts of hot water and a small amount of calcium carbonate (lime) are added to it, filtered, insolated and heated till the water evaporates completely. The salt so obtained is pure and can be used. The salt appears clean white and shiny which is soluble in water but insoluble in alcohol. If it expands to air, white powder is deposited on the surface. If it is fried, the moisture evaporates and seen with minute holes.

Synthetic Preparations:
Ingredients:

Group-A

1. Fuller's earth	1.3 litre
2. Water	10.4 "

Group-B

Alum	3500 gm
Potassium nitrate	219 gm

Milk spurge burnt ash	1.3 litre
Indian liquorice leaf juice (Abrus precatorius)	1.3 litre
Castor oil	650 ml

Fuller's earth is dissolved in water and filtered. Group-B drugs are added to the above filterate and insolated . It becomes black. Then the other 3 drugs are added to it and heated with *kamalakkini* for 96 minutes. Then it is placed in an earthen pot with wider mouth and insolated. At the end the product is collected.

It is very important drug for preparing *parpam*, *chendooram* and *guru.*

Actions:

1. Demulcent
2. Diuretic
3. Emmenogogue
4. Sedative
5. Tonic
6. Alterative
7. Antiseptic
8. Astringent
9. Parturifaceient
10. Lithodialysis

General Properties:

1. Toad skin
2. Carbuncle
3. Gastric ulcer
4. Itching
5. Haemorrhoids
6. Venereal ulcer with pus
7. Hemiplegia
8. Dental diseases
9. Uurinary tract infections
10. *Kapha*
11. Poison due to snake etc.,
12. Delirium
13. Infective diseases
14. Abdominal diseases
15. Cough
16. Indigestion
17. Rhinitis
18. Delayed labour
19. Amenorrhoea
20. Dysmenorrhoea
21. Menorrhagia
22. Sinusitis
23. Stomatitis
24. Ulcer on the nipple

25. Anaemia due to menorrhagia .
26. Epilepsy
27. Diarrhoea in labour
28. Uterine for uterus contraction in slow sdelivery

Purification of Borax:

1. Borax is bundled and hanged in the buffalo's dung solution and boiled. The bundle is cleaned with fresh water and insolated to get it in purified form.

2. Borax is bundled and kept buried in buffalo's dung for 3 days and then and washed and dried.

3. It is washed in cow's dung solution

4. It is soaked in buffalo's urine for 72 minutes.

5. It is fried in an earthen pan and triturated with vinegar (or) lime juice and dried.

6. It is fried till the moisture completely evaporates.

7. It is triturated with lemon juice or rice washed water and dried.

8. It is soaked in lemon juice or vinegar or five leaved chaste tree leaf juice and dried.

Uses:

1. Roasted borax(4.2 gm) mixed with honey (35 gm) is known as "*Venkara madhu*" applied in oral ulcers of stomatitis and glossitis. It may be adhered with ghee or butter, and applied for stomatitis, glossitis and lip ulcers which also acts as a demulcent.

2. Borax (35 gm) dissolved in water (10.4. litre) is used as a mouth wash in case of oral ulcers and sore throat. It is also used as a wash for anal fissures and ulcer.

3. Borax (4.2 gm) dissolved in water (21 ml). A cloth is soaked in the above solution and applied over the breast for curing nipple ulcers and cracks. Before feeding, the breasts should be washed.

4. Borax (4.2 gm) mixed with pig's ghee(21 ml) is applied over the painful anus for anorectal diseases.

5. Borax (8.4 gm) dissolved in water (252 ml) is used for gonorrhoea, and uterine disorders.

6. Borax (16.8 gm) mixed with water may be used as an irritation solution for bladder wash in case of urethritis. This can also be applied topically over the skin for mosquito bite, prickly heat and other skin diseases.

7. Borax powder (2.1 gm) mixed with cinnamon bark powder (650 mg) can be given along with gruel 1 to 2 hours four times a day for relief of labour pain during delayed labour. In addition, borax powder (650 mg) is given once in every six hours for pain relief.

Roasted borax (650 mg-1300 mg) is given with tender cocount water for urinary tract infections.

8. Borax 325 mg to 975 mg is given for menorrhagia, amenorrhoea, dysmenorrhoea, anaemia due to menorrhagia, ascites and epilepsy twice or thrice daily.

9. Powdered borax, sulphur and acacia catecheu-*Kaichukatti* are taken in equal quantities, mixed with ghee and applied as an ointment for scabies, eczema, itching and ulcer.

10. Borax (4.2 gm) dissolved in vinegar(42 ml) is applied over the body for itching and taeniasis.

11. Borax (260 mg) dissolved in water (28 ml) is used as an eye washing solution.

12. Borax given at a dose of 260 to 520 mg with betel leaf (Piper betle) prevents fever with rigor.

13. Borax 65mg to 325 mg mixed with breast milk is given to children for relief of pain and convulsions.

14. Borax (325 mg) and pepper powder (Piper nigrum) (195 mg)are taken together with 4 ml of honey thrice a day for controlling asthma and cough.

Borax may be used in small quantities in children as a laxative and to remove the bad odour in the stool. It is also useful for indigestion and loss of appetite.

Note : Though borax is used in many conditions as mentioned above, in Allopathic medicine it is considered that the borax should not be used

for external applications as paint for throat, tongue and mouth due to the risk of toxicity. It has been concluded by the **Cosmetic ingredient review expert panel** of the cosmetic toiletry and fragrance association that sodium borate in concentration less than or equal to 5% are safe as cosmetic ingredients. However, cosmetic formulations containing free sodium borate at this concentration should not be used on infants or on injured skin.

A report of seizured in 7 infants who had regularly be given soothers dipped in borax and honey mixture has also been published.

VENNKARA PARPAM

Borax is triturated with the white of egg till it attains white colour and put to *Kukuda pudam*. The *parpam* so obtained is useful in the treatment of *pitha* diseases.

VENNKARA MATHIRAI

Ingredients:

1.	Borax	10 gm
2.	Long pepper (Piper longum)	10 gm
3.	Black pepper (Piper nigrum)	10 gm
4.	Dried ginger (Zingiber officinale)	10 gm
5.	Purging nut (Croton tiglium)10 gm	
6.	Nitre *(padaiyuppu)*	10 gm
7.	Sulphur	10 gm
8.	Asafoetida	10 gm
9.	Bonduc - nut	10 gm
10.	Water	q.s
11.	Mudar leaf	10 gm

The above raw drugs are triturated with water, made into cakes and dried. Cakes are covered by mudar leaf and placed in an earthen pot and put to *Kukuda pudam*. Then it is triturated with dews water and made into pills in the clearing nut size.

Indications: Gastric ulcer, throbbing pain, *vatham*, hernia, ascites, anaemia, splenomegaly etc.

"வெங்காரமுஞ் சிறுதிப்பிலி மிளகிந்தது சுக்கு
பண்பாகிய நேர்வாளமும் படையுப்புடன் காந்தம்
நண்பாய்வரு பெருங்காயமு நன்றாங்கழல் விதையும்
தண்பாயின மொன்பானது சரியாயெடு வெடையே"

"எடையானது சரியாகவே யெடுத்திந்த மருந்தை
யடைவாகவே தண்ணீர்விட் டரைத்துண்டைகள் செய்து
தடைதானற வெருக்கம்பழுப் பதினாலரை மூடிக்
குடைவாகிய தொருபானையைக் கொண்டேயெருப் புடமே."

"எருகோழியி னுயரத்திற்திடு வியல்பாகிடு மருந்தைக்
கருபோலு மருவாகிய கடுநீர்தனி லரைத்துச்
சிறுதேற்று விதையாம்படி திரட்டாய்குளி கையைநீ
ஒருவாமலே ஒண்தெண் ணெயி லுற்றேநனி யுண்ணே.

"உண்ணக்கழி யும்மாலஃ துற்றாலஃ தேகக்
கண்போன்மட நங்காய்நல தண்ணீரது கண்டே
பண்டாங்கரங் கால்வாய்முகங் கழுவாய்ப்பின் பலவாய்
விண்டேகுறு கொடிதாகிய வியாதிப்பெயர் கேளாய்"

"கேளாயட்ட குன்மஞ்சூலை கிளருங்குலை வாதம்
கேளாரண்ட வாதங்குலை முட்டுஞ்சல வாம்பல்
மாளாவிப் புருதிகன பாண்டுமகோ தரமும்
காளாங்கம்புள் காடைகவு தாரி பொரு ளுண்ணே"

VENN KARA KATTU

Ingredients:

1. Borax	35 gm
2. Bone setter leaf (Cissus quadrangularis) or *(kunmakudori* – a water plant)	175 gm

Borax is covered with bone setter leaf poultice and sealed with mud pasted cloth and put into *puda* with 525 gm cow dung cakes for solidification *(kattu)* . This *kattu* is mixed with white of egg and again put to *puda* to get it as *parpam*.

Other uses of Borax:

Borax powder is sprayed over silver fish to kill them.

To destroy the worms which muitiply in the dung, 42 gm of borax is dissolved in 11.3 litre of water and sprayed.

26. *VEDIYUPPU*

(POTTASIUM NITRATE)

Other names: *Pottiluppu, Inangan, Padairasan, Boomikoormai, Navachara mithru.*

Preparation:

The sand contaming the crude salt is placed in a mud pot. Water is added into it and mixed well. and a straw is placed inside the pot and filtered. The filterated mixture is heated to get the salt.

The potassium nitrate salt is used for the preparation of explosives. It is also used for cooling alcohol and to polish the gold ornaments.

Purification:

1. Salt	100 gm
2. Water	400 gm
3. Fermented butter milk	100 gm
4. Lime juice	100 gm

Water is added to the salt and boiled on a hearth with mild flames. The white of eggs (4 Nos.) is added to every 1,400 gm of salt and the bubbles appearing with impure substances are removed with a wooden spoon.

The ingredients are then transferred to another pot, sealed with mud pasted cloth, filtered and kept in places without aeration. Next day the water is filtered and the salt is dried in sun shade. This process is repeated for seven times to get it purified .

Other method:

Potassium nitrate (1part), sea water or water (2 parts) are taken. Pottassium nitrate is finely powdered and dissolved in water. The clear fluid is poured in white coloured iron pot and heated till a semi-solid consistency is obtained. This is then poured in a copper pot and placed in a cool place; now the salt will form; the salt is taken out and dissolved in 2 parts of water and heated as mentioned above, this process is repeated for five to seven times to get it purified .

The purified salt will appear as white thin rods. When placed in the tongue, it gives a cooling effect.

Properties and Uses:

Potassium nitrate salt has got demulcent, diuretic and diaphoratic properties. This should be given by dissolving in large quantities of water.

The salt is also useful in the treatment of eight types of gunmam, uterous fibroids, anorexia, anaemia, urinary tract infections, dysuria, stranguary, ascites, menopaused disorders, abdominal distention and asthma. It improves fertility in women.

The salt is also effective in fever, swellings, rheumatic disorders, haemorrhage, gonorrhoea, eye diseases and sore throat.

Dosage: 650 mg - 1300 mg.

This is described in the following Tamil verses:

7. Equal ratio of salt and tamarind are dissolved in water and boiled and the mixture is taken in semi-solid consistency and applied over the swelling and sprain by which haematoma will subside.

8. The salt is also used as one of the ingredients in tooth powders.

9. Insects entered in the ear, generative organs, anus will come out on spraying the salt water.

10. Dissolved salt water is given through the rectum to remove the worms in the large intestine.

11. The salt is also used as a preservative for fish, mutton and vegetables.

12. The salt is dissolved in water and given for the silver nitrated poisoning.

Properties of Salt water:

It cures asthma, cough, vomiting, eye diseases, diarrhoea, hepatitis due to *vatha*, anasarca and gastric ulcer associated with fever.

"உப்புநீர்க் குணங்கள் தன்னை ஓதியே விளம்பக் கேளும்
நப்பிளைப் பிருமல் வாந்தி நயனரோ கங்கள் போகும்
செப்பினே ணதிசா ரங்கள் தோரணி லகுவை சோபை
வெப்புமேற் குன்மந் தீரும் மேதினியில் விளம்பு வாயே."

Properties of Sea water:

Hansen's disease, body pain, throbbing pain due to traumatic haematoma, skin diseases, gastric ulcer, sense of heat, *vatha*, hepatomagaly, ascites and splenomegaly are cured by sea water.

"கடலின் புனலாற் கவிகை பெருநோய்
உடலில் கடுப்புதிரச் சூலையடர்குட்டம்
வாதகுன்மம் வெப்பிரத்த வாதநீ ராமை
கோதரம் பிலீகமறுங் கூறு."

V. NINE GEMSTONES

(NAVAMANI)

There is a mythological story that Avunan alias Valan was blessed by Lord Siva that his body will become germs on his death.

These are explained in the following Tamil verses:

"பசுவெண்பு வயிரம் பல்லு
பனிமுத்தங் குருதி யோதில்
வசையறு திருமா ணிக்க
மயிர்வயி டூரி யங்கள்
தசைபவ ளங்க ணீலந்
தரும்பிச்சு பச்சை மெச்சு
நிசகபம் புட்ப ராக
நிணாங்கோமே தகமென் றாமே"

"அத்தகை யாவின் சோரி
மாணிக்க மாம்பன் முத்தம்
பித்தைவை டூரிய மென்பு
வச்சிரம் பித்தம் பச்சை
நெய்தவெண் ணிணாங்கோ மேதந்
தசைதுகிர் நெடுங்கணீல
மெய்த்தவை புருட ராக
யிவைநவ மணியின் றோற்றம்" *(Pa.Puranam)*

As the gems are said to be formed from the various parts of the human body, it is inferred that for treating those parts when affected, the medicines prepared from the respective gems are more useful for cure.

1. Bones into	Diamond
2. Teeth into	Pearls
3. Blood into	Ruby
4. Hair into	Lapiz *(Vaiduriyam)*
5 Muscles into	*Mani*
6 Eyes into	Sapphire

7. *Pitham* into Emerald
8. *Kapham* into Topaz
9. *Ninam* (lymph) into Zircon *(Komethagam)*

It is considered by ancient Tamil saints that the nine gem stones are used as catalysts for acquiring 64 types of supernatural powers. The nine gems stones are:

1. Zircon *(Komethagam)*
2. Sapphire
3. Coral
4. Topaz
5. Emerald
6. Ruby
7. Pearl
8. Lapiz *(Vaiduriyam)*
9. Diamond

The nine gems are correlated to the nine planets. As the planets influence different organs, these gems are also used for the diseases of the different organs of the body.

Planet	**Gem**
Sun	Ruby
Moon	Pearl
Mars	Coral
Mercury	Emerald
Jupiter	Topaz
Venus	Diamond
Saturn	Sapphire
Raghu	Zircon
Kethu	Lapiz *(Vaiduriyam)*

Suitable Adjuvants for successful performance of nine gems :

It is considered that mercury can give sixty four types of *Siddhi's*. It helps to fight against and win over the fire. It also helps one to get the required power for achieving the desired things.

Appropriate days to analyse the nine gems:

It is considered that it will be preferable to analyse the nine gems in particular days as follows:

Day	*Gems*
Sunday	Ruby
Monday	Zircon
Tuesday	Pearl, Lapiz *(Vaiduriyam)*
Wednesday	Coral
Thursday	Emerald, Topaz
Friday	Diamond
Saturday	Sapphire

Suitable flowers for worshipping the nine gems

Gems	Flowers
Ruby	Lotus
Pearl	Champak
Coral	Red water lily
Emerald	November flower
Topaz	Jasmine
Diamond	Hundred petals lotus
Sapphire	bael flower *(karuvilam)*
Zircon	Black water lily
Lapiz (*Vaiduriyam*)	Bauhinia purpuea (*mantharai* -white)

DIRECTIONS WHERE THE NINE GEMS TO BE WORSHIPPED:

NORTH WEST	NORTH	NORTH EAST
Neelam (Sapphire) *Sani*-(Saturn)	*Komethagam* (Zircon) *(Raagu)*	*Vaiduriyam* (Lapiz) *(Kethu)*
Vairam (Diamond) *(Sukiran-Venus)*	*Maanickam* (Ruby) *(Sooriyan-Sun)*	*Muthu* (Pearl) *(Chandiran-Moon)*
WEST		**EAST**
Putparagam (Topaz)	*Maragadham* (Emerald)	*Pavazham* (Coral)
Guru(Jupiter)	*Budhan(Mercury)*	*Cevvai(Mars)*
SOUTH EAST	**SOUTH**	**SOUTH EAST**

GROUPING OF NINE GEMS

Nine gems are divided into four groups according to their properties and birth.

1.	*Bramma*	Diamond and Pearl
2.	*Arasar*	Ruby and Coral
3.	*Vaisya*	Topaz and Zircon
4.	*Vellala*	Supphire and Emerald

PANCHA RATHINAM: It is considered that *Pancharathinam* includes the following five:

1. *Padmaraagam*
2. *Indiraneelam*
3. Emerald
4. Pearl
5. Diamond

The following five gemstones generate from one stone but have different attractive appearances besides having florescent properties:

1. Ruby
2. Purudaraagam
3. Sapphire
4. Zircon
5. Lapiz (*Vaiduriyam)*

EGADHASA MANIGAL (GEMS)*:* The nine gem stones along with crystal and sulpuret of antimony are considered as *egadhasa manigal* (gems).

1. Gems with Satvic qualities:
   1. *Pearl,*
   2. *Palingu*
   3. *Pachaai*
2. Gems with Rajasa qualities :
   1. *Thugir*
   2. Ruby

3. Zircon
4. *Purudaraagam*
5. Lapiz *(Vaiduriyam)*
6. Diamond

3. Gem with *Thamsa* quality: Sapphire

1. *KOMETHAGAM* (ZIRCON)

Zircon is considered as one of the three gem stones and the other two being Topaz (putparagam) and lapiz *(vaiduriyam)* which are considered as best among the nine gem stones.

Properties of zircon:

It gives shiny appearance to the body. It removes complications which arise due to *vathapitha*, constipation and fever as described in the following Tamil verses:

" வாதபித்த கோபத்தை மாற்றுமலக் கட்டறுக்கும்
ஓதுமந் தாக்கினியை ஓட்டுங்காண்- மீதில்
அழறருவி காரம் அகற்றுமொளி செய்யும்
கழறுகின்ற கோமேதகம்".

" களிப்பான உத்தமத்தைத் தரித்தா னானால்
*கனபுத்தி மிகவுங்கோ சரமு மாகும்
விளிப்பான ஆயுள்தான் விருத்தி யுண்டாம்
மிடுக்குண்டா மென்னாளு மெலிவு மில்லை
தளிப்பான சலந்தன்னைச் சாடிப் போடும்
தகையிலுள தோஷமெலாந் தகர்ந்து போமே."

Note : * As Zircon is compared to Rahu, which is among one of the nine planets according to Tamil astrology one who wears this gem, gets more wisdom since *Rahu* is personified as *Gnanakarakam* (Lord of Wisdom).

Purification Methods:

1. Zircon is purified when it is soaked in horse urine for three days and in the juice of Gmelina asiatica leaf-*Nilakkumizh* for one day.

2. Zircon or Ruby is placed over a mica plate. Arrack, *theeneer* of

gowspaan, rosewater and vinegar are taken in equal quantities and added to the zircon and kept dried for twelve hours to get it purified.

Komethaga Parpam:

Purified *Komethagam* is kept soaked in the juice of black thorn apple (Datura stramonium) for one day. Next day it is placed in a small crucibile, and sealed with mud pasted cloth. It is then blown up and down with a blacksmith furnace. The blowing is repeated for three times to get the *parpam*.

The *parpam* is useful in the diseases of *vatha, pitha,* anaemia, liver disease and hernia. The *parpam* also stimulates appetite and taste.

In allopathic medicine, extract of various organs of animals are used for treating the diseases. But Siddha medicines are prepared mainly from the minerals. The *Komethaga parpam* is also being prepared mainly from the minerals, and so it is very effective in the treatment of various diseases. This product has an added advantage that animals are not sacrificed for this preparation.

2. *NEELAMANI* (SAPPHIRE)

Properties and Uses:

The Sapphire has got the property of sharpening the knowledge. It relieves ankle pain, venereal disease, *pitha* etc. It is also an aphrodisiac.

> "குதிவலிமே கம்பித்தம் கூறரிய பாண்டு
> மதிமயக்கம் எல்லாம் மருளும்- மதிநுதலே
> புத்தியோடு மென்மேலும் போகசுகம் உண்டாகும்
> சுத்தநறு நீலத்தாற் சொல்"

Purification:

Sapphire is kept soaked in donkey's urine and insolated for one day and then washed in pure water to get it purified. It can also be purified using horse urine. It is heated and soaked in the latex of Calotropis gigantea for five or six times.

Neela neeru (Sapphire parpam):

1. The purified sapphire is kept soaked in the cotton leaf (Gossypium herbaceum) juice for twelve hours. It is then blown with blacksmith's furnace to get a parpam.

2. The purified sapphireis put to *sooriyapuda* for twelve hours using *karkam* of Heliotropium indicum leaf s*(Thel kodukkılaı)*. It is then placed in a *kugai*, closed and blown; after cooling the *parpam* is taken out.

3. According to the text of *Agathiar's vaithıya navaneetham.*

4. 2gm.of sapphire is taken. Milk of Calotropis gigantea (105 gm) and the juice of Indian aloes (210 gm) are taken and placed in a mud flask. The sapphire is placed in a flask, covered with mud soiled cloth and put to *puda* by using seventy cowdung cakes to get the *parpam*. If the *parpam* is not formed the process is repeated again as mentioned above.

Dosage: 32mg - 130 mg.

The *parpam* is useful for joint pain and rheumatism; it is given along with *maisaatchi chooranam* (1gm) and honey (1 gm) for intermittent fever,it is given along with basil juice (12.6gm.) and pepper *chooranam* (0.5 gm).

For fever due to splenomegaly and enlargement of liver, the *parpam* is given along with the juice of *Manatthakkali* (Solanum nigrum) (12.6 gm)

It is given along with the juice of *karisalaı* (Eclipta prostrata) and honey (12.6 gm each) for improving the vision.

For diarrhoea with fever and dysentery, the *parpam* is given along with chinnamon *chooranam* (0.5gm), cardomom (1gm.) and honey (4.2gm.)

It is given along with *Adathoda* vasica and honey (12.6 gm each) to control menorrhagia and haemorrhage.

Sapphire purified in horse urine is kept soaked in the juice of Nervilia aragoana- *orilai thamarai*. After three hours, it is blown with furnace for 1 ½ hours to get the *parpam*.

3. *PAVALAM* (CORAL)

The corals are the exo- skeleton of the minute marine organisms. The skeleton of colories which are branched in all directions resemble tiny trees. These corals are found in the deep seas like Indian ocean and Mediterraneam sea.

It is said that there are six good properties and six defects in *pavalam* (coral).

Properties and Uses:

Coral gives shiny appearance to the body. It reduces phlegm, cough and loss of appetite which occurs during the fever. It also counteracts the poisonous effect of insects. It also controls thirst and improves spermatogenesis.

" சுரதோடம் ஐயமுத் தோடசுரங் காசம்
அருசிகீ டத்தாலாம் ஆலம் - பெருவிந்து
நட்டம் அதிதாகம் நாவறட்சி போமொளியுங்
கிட்டும் பவழத்தாற் கேள்"

Coral has also got diuretic, laxative and astringment properties. It also strengthens the nerves. Further it reduces excessive phlegm.

The coral is useful in the treatment of pitha, excessive phlegm and eye disorders.

Purification:

Coral (35gm) is soaked in 210 gm of dates toddy and insolated. Fresh dates toddy is added on the next day and dried in sun light. This process is repeated for five times and the material is then washed in water to get it purified .

This purified form is useful for the preparation of *parpam* etc.

Preparation of *pavala parpam*:

Purified Coral (35gm) is triturated with various juices as shown in the following table:

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1. Juice of Bauhinia tomentosa leaf *thiruvaththi*	210	6	5	1	30
2. Whole plant juice of Indian Lnburnum- *konrai* (Cassia fistula)	175	5	4	1	25

3. whole plant of juice of Pterocarpus indicus -*vaengai*	210	6	5	1	30
4. whole plant juice of White mudar Calotropis gigantea)	175	5	4	1	25

It is then subjected to puda process. Each day, only freshly prepared juices should be used. The cakes are made and dried in sun shade as well as in the dew.

Dose of the *parpam:*

The preferred dose is one or two pepper size of weight.

The *parpam* is an effective spermatogenic agent. It strengthens the body and protects the bodyfrom infections.

Other methods:

1. The coral is trituated with latex of *erukku* (Calotropis gigantea) and kept in an *aghal* and put to *puda* process to obtain the *parpam*.

2. Poultice of *Ilandai* (Zizyphus jujuba) or *thaivelai* (Gynandropsis pentaphylla) is applied over the coral and kept in an *aghal* and put to *puda* process. It is then cleaned with cow's milk, insolate , powdered and taken.

3. The parpam can be prepared by using *keezhanelli* (Phyllanthus niruri).

4. The Coral could be triturated using rabbit's blood and made into cakes and put to *puda* process.

5. Equal quantity of coral and *karpoora silajat* triturated using juice of the *vajravalli* and put to *gaja puda*. The process is repeated with juice of Oxalis corniculata (*puliyarai juice*)

6. Coral(20gm) and honey (120gm) are placed in a new mud pot. The pot is tightly covered with a tile. A mud pasted cloth is made and put to *puda* to get the *parpam*.

Pavazha Chendooram:

Coral (35gm) is triturated individually with the following juices of palmyra, cotton (Gossypium herbaceum), Viola suffruticosa, Daemia extensa, Arecanut and wild chinchona. It is then subjected to puda to obtain *chendooram.*

This *chendooram* is effective in the management of piles, burning sensation of head and hand, abdominal pain,tremors and diarrhoea.

The adjuvant and the Uses of *pavazha parpam:*

1. Seeds of pomegranates (8.75 gms) are soaked in water (105 gm) and then triturated. Old jaggery (4.4gm) is added with this and mixed well and then cow's milk (105ml) is added to this. This preparation is taken twice a day for 42 days that improves low sperm count caused by *vatha* and body heat.

Dietary restriction:

Oil, mustard and tamarind are to be avoided. Sexual activity should also be avoided. Milk can be taken along with cluster fig and mango fruit.

2. Drumstick seeds are kept soaked and triturated. Sugar (4.4gm) is added and mixed well. This preparation is taken with cow's ghee for the improvement of low sperm count caused by *pitha* and body heat.

Hot water should be taken. Jack fruit and palmyra fruits should also be taken.

3. The seeds of *pullanji* (Flueggea leucopyrus) is kept soaked and triturated. Sugar candy is added to this and mixed well. This preparation is taken with cow's butter for the improvement of low sperm count caused by *kapha* and body heat.

Fruit of Citrus aurantium and banana should also be taken in plenty as said in the following Tamil verses:

"விரைமா தளைதவைபூல் வெல்லமயிர் கண்டு
விரைமா தளைசுதை நெய் வெண்ணெய்- விரைமா
வருக்கை பனைநரந்தை வாழையுணா வுண்ட
வருக்கை பனைநரந்தை மால்" - *(Theran Yamaga Venba)*

" வாத முதலனல் வந்திடுமே கத்தாலச்
சேத மிகுவிந்து சீர்பெற வேண்டினோர்
மாதளை யாதி வரிசை வித் துண்பவர்
தாது மிகுந்து தழைப்பர்முன் போலவே"

(Tirumoolar Tirumanthiram)

Adjuvants and Uses of *pavazha Parpam*

Adjuvant	Indications
1. Calophyllum apetalum	Venereal heat
2. Ghee	Vomiting due to tuberculosis
3. Palmyrah toddy	Venereal disease
4. Butter	Fever due to *vatha* and *pitha.*
5. Cow's milk	Fever due to *kapha*
6. Cow's curd	Colic pain
7. Cow's buttermilk	Tremors
8. Water	Sprain,cramp
9. Basil juice (Ocimum sanctum)	Hepatomegaly
10. Tender coconut water	Cataract
11. Palm fruit	Tuberculosis *(kapha kasam)*
12. Juice of Emblica officinalis	Itching due to *pitha* and venereal disease.
13. Juice of coriander (Coriandrum sativum)	Venereal disease due to *kapha,* acne and tumour
14. Sandal paste	*Pitha* related vatha diseases, and abdominal pain
15. Jaggery	*Vatha* diseases associated with *kapha* associated with *kapha.*
16. Honey	Palsy due to *pitha*, poly menorrhoea, uterus cancer
17. Aegle marmelos juice	Tremors due to *kapha*
18. Mimusops elengi	Cardiac arrest, *pitha vatha* related diseases

19. Whole plant juice of bamboo	Head ache due to *kapha* diseases
20. Rice flour	Bile tumour *(pitha villai)* and *vatha* heat
21. Calophyllum inophyllum juice	Abdominal pain associated with *Kapha* and odontopathy disease, acidity
22. Hot water	Fatal delirium *(maraga sanni)*, Hemiplegia (*patcha vayu)*, mania *(piramai)*.

Special properties of *Pavazha parpam:*

If the *pavazha parpam* made from rabbits blood, taken twice daily with ghee or milk, it cures cough. When it is taken with the juice of Solanum trilobatum (*thothuvalai)* it cures tuberculosis.

If the *pavazha parpam* made from crystallised foliated gypsum *(karpoora silasaththu)* is taken twice daily with butter, it cures tuberculosis, diabetes, syphilitic necrosis and dysuria. If taken with honey, it cures gonorrhoea.

It is considered that the ideal time for taking the *parpam* is all the nine months of the year except *Karthigai, Markazhi and Panguni.*

If the *pavazha parpam* made from milky juice of Calotropis gigantea when taken twice daily in ghee, heat due to venereal disease and cough due to heat will be controlled.

If the *pavazha parpam* made from Phyllanthus niruri when administered as mentioned above, cough and stomach cramp will be controlled. When taken with *nisineer* (old rice water), burning micturation will be controlled.

If the *pavazha parpam* is taken in honey, venereal itching will be controlled.

If the *pavazha parpam* placed in jujube, taken with boiled lemon juice, dysentery will be controlled. If taken in ghee, dry cough will be controlled.

When the *pavazha parpam* is taken in the juices of Desmodium triflorum *(Siru pulladi)* Mollugo lotoides (*Siru seruppadi* - small variety)

and toddy, venereal diseases will be controlled as stated in the following *Tamil verse:*

"சொறி மிகுந்த மேகநோய்
தொகையணைத்து மேகவே
சிறிய பட்சி பாதமே
சிறுசெருப்பு பாதமே
வெறிகொ டுக்கும் நீரினால்
வெகுசி தப்ர வாளமே
திறமளிக்க வேயவை
செகமி சைக்க மேவுமே."

Period of administration of *pavazha parpam* :

The *parpam* can be taken during all the months of the year except *Kaarthigai, Markazhi and Panguni.*(mid November to mid January and mid March to mid April).

The fertile land *Marudham* is the preferred place for taking this *parpam.*

It corrects the defective tone of voice controls ageing and gives body strength and longevity, as described in the following Tamil verse.

"சிந்தூரத்துப் பாடலை சேர்காய வண்மையுண்டாம்
சிந்தூரத்துப் பாடலை செய்யுமுன்னே"

Diet restriction: Avoid smoking and sexual contact

Pavazhaa Chendooram:

Adjuvants	*Indications*
1. Hot water	Bleeding haemorrhoids
2. Sugar	Fistula
3. Ghee	Burning sensation of head and hand
4. Juice of Allium cepa	Peptic ulcer with vomiting
5. *Panagam*	Tremors
6. Water	Morbid thirst
7. Liquorice (Glycyrrhiza glabra)- *Adhimaduram*	*Soothaka sanni*
8. Cajanus cajan leaf juice(Pigeon pea)	Abdominal pain
9. Crataeva religiosa	Diarrhoea

4. PUTPARAAGAM (TOPAZ)

The topaz appears shiny like gold. The topaz obtained from Brazil is considered as best quality.

General Properties:

Topaz improves spermatogenesis and sharpens the mind. It cures venereal diseases.

It is said that those who wear the beads of topaz, can see the change in colour of the topaz just before they contract the disease. This property of the topaz may help to know the occurrence of the disease in advance and to take preventive measures as specified in the following Tamil verse.

"வீரிய விர்த்தியது மேன்மேலு முண்டாகுங்
கூறியநற் புத்தியுண்டாங் கூறுங்கால்- பாரில்
பிணிவிருப்பம் ஏகும் பெரும்புட்ப ராக
மணியாற் புகழுண்டாம் வாழ்த்து"

Purification:

The Topaz is kept soaked in goat's urine and then dried in sunlight for six hours and then washed with hot water to get purified .

Parpam:

The juice of brinjal (Solanum melongena)- *Vazhuthlankai* is added to purified topaz and exposed to sunlight for six hours. It is then placed in a crucible and covered with mud pasted cloth and dried. It is then blown in a blacksmith's furnace. After it is dried, the *parpam* is obtained.

The *parpam* is effective in the management of fever, hiccup, vomiting, itching, skin diseases and loss of appetite.

The *parpam* is effective in the management of cough and ulcer besides strengthening the heart.

Another method:

Topaz is also prepared by soaking in the juice of Aerva lanata (*Sirupeelai)* and insolated for 5 hours. It is then placed in a *moosai* and blown to get the *parpam.*

Another method:

1 gm of Topaz is soaked in the mixture of Aloe vera juice and latex

of Calotropis gigantea (70gm) and put to *puda* process using 70 cow dung cakes.

Dose: 65 mg.

Indications & Adjuvants:

The *parpam* is given along with raddish juice and honey (25.2gm each) for the control of excessive thirst.

When given along with the juice of Ficus religiosa and honey, cough, eye disease, diarrhoea and burning sensation of body will be relieved. When given with country-mallow (Abutilon indicum, *Tutti* leave)juice and honey, anaemia and haemorrhoids will be cured.

If the powder of black cumin seed (520mg) mixed with honey (12.6gm) is taken along with the parpam, pitha and *kapha* diseases are controlled.

If the parpam is taken with juice of sacred lotus (Nelumbium speciosum) (12.6gm each)it controls excessive menstrual bleeding, haemorrhoids, swellings and *vayu.*

5. *MARAGATHAM* (EMERALD)

Other names : *Pachchai, karudapachchai, maragatha patchchai and gowsthuvam.*

Emerald is available in Burma and Ceylon. In India, it is available in Jaipur. The Jaipur emerald stones are considered as the best variety.

Properties and Uses:

Emerald improves spermatogenesis. It heals the ulcers and venereal diseases; removes poison from the body. It drives away sbad devils from the body as specified in the following Tamil verse:

"தாது தரும் பூதபை சாசந் தமையோட்டும்
மீது வரு புண்ணை விலக்குங்காண்-தீதுபுரி
நச்சை யகற்றும் நலிமதுமே கம்போக்கும்
பச்சை யதுமதுரம் பார்"

Purification:

Emerald is kept in the poultice of Gmelina asiatica *(Nilakumizh ver)* and kept in an earthen shell; sealed with mud smeared cloth and put to *kukkuda puda*

Another method:

Emerald is placed in a crucible and heated with a furnace. It is then soaked 7 times in horse urine and taken out.

Parpam:

The emerald is triturated with the juices of Solanum xanthocarpum and Aerva lanata *(Sirupeelai)* for one day. Cakes are made, dried, placed in an earthen shell, covered with mud pasted cloth and put to pig puda *(pantri pudam)* process and dried to get the *parpam.*

Dose: 488 mg.

Another method:

When put to four or five puda using the Ammannia baccifera *(kalluruvi)* leaf juice, the *parpam* may be obtained. The time of trituration is 12 hours for each *pudam*. The cowdungs used are fifty in number.

The *parpam* applied externally over the eyelids cures eye diseases. It is also considered that when the finger rings engraved with the emerald prevents epilepsy.

In case of coma due to snake bite, the emerald beads may be powdered pressed at the incised site of bite to remove the poison.

According to the text book of chemistry, the emerald stone is considered as an artificial stone formed by the combination of aluminium and glucinum.

Test to identify the Natural and Synthetic Emerald:

In case of artificial stones, the shiny appearance diminishes when the emerald is rubbed with a sharp rod, whereas, the shiny appearance increases in natural stones.

6. *MANIKKAM* (RUBY)

It is considered that the Ruby beads are available in nature in Srilanka where the four rivers (Alagai, Mavali, Kambalai and Kallanai) merge. The best type of Rubies are available in Burma and Mokak.

It is considered that the ruby will be available in the following four types of places: Magam, Kaalapuram, Thumpuram and Singhalam.

Ruby is of four kinds namely – *Kuruvindham, Sadhangam, Kovangam* and *Sowghandhi* which have12 types of qualities, 16 types of illeffects and 28 types of luminous effects. as specified in the following Tamil verse:

" தேக்கி னெருப்பிற் சேர்க்கினங் கையிற்
றூக்கினற் றகட்டிற் சுடர்வாய் வெயிலிற்
குச்சையின் மந்தகக் குறியினோ ரத்தி
னெய்த்துப் பார்வையி னோர்ந்து சிவந்தாங்
கொத்த நற்குண முடையபன் னிரண்டும்." *(kalladam)*

Qualities - 12

Ruby has the properties such as while handling, rubbing, firing, touching, on keeping in a thin sheet, on inserting with a stick, insolated etc., it gives reddish luminous effect.

Ill effects – 16

Ruby has the following illeffects when mixed with red soil, smoke, air etc as specified in the following Tamil verse:

"கருகி நொய்தாதல் காற்று வெகுளி
திருகண் முரணே செம்ம ணிறுகன்
மந்தகக் குழிவு தராசமி லைச்சுமி
வெச்சம் பொரிவு புகைதல் பிடாயஞ்
சந்தை நெய்ப்பிலி யெனத்தகு பதினாறு
முந்திய நூலின் மொழிந்தன குற்றமும்."

***Saathurangam* – Luminous effect – 10**

Other names: *Kamalaragam, Pathumam and Pathumaragam.*

Ruby has ten colours resembling sky lark's eye, lotus, water lily, ladies flv. glow warm. sun. fire, lamp. pomegranate fruit and flower.

Kuruvintham **– Luminous effect – 8**

Other names: *Vindham and Raktha vindhu.*

It has eight kinds of luminous effects resembling red cotton, shoe flower, red water lily, flower of the Lodh –tree, rabbit blood, red arsenic, jequirity and flower of bastard teak.

Sowghandhi **– Luminous effect - 6**

Other names : *Neelam and Neelaghendhi.*

It has six kinds of luminous effects resembling tender root of ashoka tree, red cotton, red oleander, copper, flower of white silk cotton tree and Indian cuckoo's eye.

Kovangam **– Luminous effect - 4**

Other name : *Paditham.*

It has four kinds of luminous effects resembling bottle flower, ivy gourd, brick and turmeric.

Testing of Ruby

When the ruby is placed into the red hot fire in a mud pot, the colour of pure ruby will differ in every three hours.

General Properties:

It is considered that the ruby regurgitated by the snake is effective in the treatment of fever, excessive thirst and chronic eye diseases.

The ruby is also considered effective in the treatment of haemetemesis, and *kapha vatha*. It also improves spermatogenesis as specified in the following Tamil verse:

"சுரரோகஞ் சந்நிகளின் தோடமதி தாக
முரமான மேக மொழியுந்-திறமாக
வூணிக்கோ ணேந்திரநோ யோடுமர வீன்றவொளி
மாணிக்கத் தால்வசிய மாம்"

Purification methods:

Method - I

The ruby is soaked in horse urine for three days, insolated and washed in hot water to purify.

Method - II

Hot ruby is soaked in goat's urine for six times to get it purified.

Maanikka parpam:

Method - I

The latex of Calotropis gigantea is added to purified ruby and kept for three days. It is then dried, sealed with mud pasted cloth and subjected to three *gaja pudas* to get the parpam.

Method - II

126 gm. of ruby is put into a flask of 350 gms. capacity and kept on fire and fused with grapes vinegar and arrack individually for 12 hours. 350 gms.of Indian aloes juice is added and alowed to it to cool and sealed with mud pasted cloth and subjected to puda process with 40 or 50 cowdung cakes. It is taken out and mixed with sufficient quality of rose water,grind for 6 hours for seven days and dried in sunlight, powdered and bottled up for use.

Method – III

12.6gm of ruby is kept in to the Adathoda vasika poultice *(Adathodai vizhudhu)* (210 gm) and dried up to 50 % .Then again 350 gms of the poultice is taken and kept in a mud pot and dried. The other half part of poultice placed over it and closed with a lid. It is then sealed with seven layers of mud pasted cloth and put to *puda* process with 40-50 cow dung cakes.

Dose: 32mg to 65 mg.

Adjuvants: Milk, butter, ghee, hony and *manappagu* made from the fruits of pomegranates and fig are also used.

Indications:

It strengthens the head, brain, stomach and liver. It also strengthens the body and mind besides giving mental excitement.

The poisonous effects and antidotes of ruby are similar to that of diamond.

7. *MUTHU* (PEARL)

Its other names are *Murivanji, Thoolagam, Sukkiran, Nithilam, Tharalam, Sangeentrapillai, Aadithansothi, Aazhivithu, kathalam* and *mouthigam.*

Pearl is available in two kinds. The pearl available in land is called as *'Thalasam'*, while that available in water is called as *'Salasam'*.

According to *Thiruvenkadar puranam* and *Rathina churukkam*, pearl is got from about 20 sources as mentioned below:

1. Moon
2. Clouds
3. Conch
4. Shell
5. Fish head
6. Snail
7. Crocodile
8. Monitor lizard
9. Lotus
10. Plantain tree
11. Areca nut tree (Areca catechu)
12. Sugarcane
13. Paddy
14. Bamboo
15. Elephant's tusk
16. Pig's horn
17. Cow's milk
18. Cobra
19. Crane
20. Woman's neck

Pearl has got 6 properties such as clear shap. twinkling light, massiveness, clarity, attraction and shining appearance and 4 ill effects caused by the air, soil, stone and water.

Colour of the Pearl

Pearl Source	Colour
1. Water	White
2. Cloud	Red
3. Bamboo	Ice
4. Snake	Blue
5. Pig's horn	Blood
6. Paddy	Green

7. Fish	Trumpet flower *(pathiri)*
8. Elephant's tusk	(Golden)
9. Sugarcane	(Golden)

These are explained in *Thiruvilaiyadal puranam*.

Pearl, being one among the precious stones and one of the five sea-wealths, is available in Thalaimannar at Ceylon, Persia and Tuticorin in Tamil nadu. It is also available in certain hot seashore regions of United States. In Thalaimannar at Ceylon is a famous place for collection of pearls from oyster where people go upto 60 to 90 feet depth in to the sea for collecting the oysters.

It is said that the Japanese are experts in the production of artificial pearls. In olden days, the pearls were synthesised artificially in Tamilnadu from substandard pearls as follows:

The substandard pearls and oysters are placed in to the mixture of *pooneru* (fuller's earth) and limestone and boiled. After water is evaporated, they are washed, dried, powdered and ground with the juice of Asarum europaeum for four days. They are placed in a *moosai* made of sunflower leaf, covered with blackgram flour and dried for seven days in sunlight. If opened on the eighth day, small pearls would have developed with shiny appearance like natural pearls.

Test for pearl:

If the pearl placed in alcohol dissolves, it is pure.

Properties of pearl:

Pearl has got mucolytic, aphrodisiac, anticonvulsant and body strengthening properties. It also controls excessive haemorrhage.

The pearl is also considered effective in fever of bony origin, anaemia, loss of taste, eye diseases and body weakness. It also improves spermatogenesis.

Purification:

Method-1:

Pearl (35gm.) is added with cow's curd (soured -105 gm.), insolated and dried. The process is repeated for three days using fresh curd every day. Then the process is insolated without using curd for two more days and dried again the process is repeated for two times. Finally the resultant material is washed and dried to get the purified pearl.

Method- 2

The pearl is soaked in Datura metel juice for one day; next day it is washed in water, and soaked in the juice of tamarind leaves , washed once in water, insolated and dried to get the purified pearl.

Method- 3

The pearl is kept soaked in lemon juice and vinegar for one day and then washed with water to get the pearl purified.

Method-4

The pearl is soaked in the fruits juice of Azima tetracantha or Sapindus trifoliatus or tamarind for two days to get the pearl purified .

Preparation of *Muthu parpam* (Pearl *parpam*):

Purified pearl powder (35 gm) is ground with various juices as shown in the following table:

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1. Whole plant juice of Cleome viscosa (*-velai)*	175	5	4	1	9
2. Whole plant juice of calotropis gigantea *(erukku)*	175.	5	4	1	8

3. Leaf juice of Ficus racemosa *(Aththi)*	175	5	4	1	7
4. Bark juice of Terminalia arjuna *(marutham)*	175	5	4	1	6

Freshly prepared juice should be used every day. It is then dried, made into pills and put to *puda* process. Pills should be dried both in the sunlight and in dews.

Dosage: It is considered that the preferred dose is equivalent to part 1/6th of a bean seed.

Adjuvants and curable diseases:

Method - 1

Adjuvants	Curable diseases :
Whole plant juice of Euphorbia ligularia	*Vatha* and it's associated diseases like rheumatism, body pain, dropsy and abdominal pain due to excess watery fluid inside the abdomen.
Cold water	*Piha* and its associated diseases like *gunmum*, vomiting, hiccough, menorrhagia, splenomegaly, dyspep sia, rheumatic affection,excess *vayu* due to heat and leprosy.
Cow's curd	*Kapha* and it's associated diseases like dropsy, apoplexy paralysis and acne caused by eighteen types of skin affections.
Cow's milk	Pox, anhydremia, chronic dysentery, excess vomiting, and excess body heat.
Cow's ghee	Delirium, ascites due to excess *pithavatha,* haemorrhoids, unconciousness due to anaemia, diabetes, phlegmatic fever and gonorrhoea.

Palmyra toddy	Eczema, scabies, flatulance, discolourative patches on the body, itching sensation and dropsy.
Hot water	Bone diseases, tuberculosis, delirium due to lock of jaws, menorrhagia, acne, conjuncti val disease, venereal ulcer and diarrhoea.
Honey	Strangury, articular rheuma tism, hiccough, griping pain in the stomach, urinary tract infections , prolapse of the rectum, diabetes, anaemia, sinusitis, cancer of the vulva , ulcer of the penis and syphilis.
Grapes juice	Hydrocele, oedema and paralysis.
Juice of betal leaf	cough and thirst
Cow's butter	Palsy and neuralgia,
sugar	Eczema, scabies, venereal ulcer resulting from *vatha pitha* and *kapha*
Rose water	*Pitha* delirium and it's associated diseases like wind humour affect ing the eyes, coats over the scleroticas and night blindness.

Method - 2

Adjuvants:	**Curable diseases:**
Tender coconut water	*Vatha* fever
Onion juice	Pitha fever
Root juice of Cynodon dactylon	*Kapha* fever
Whole plant juice of Capparis zeylanica (*Aathondai)*	Apoplexy attend wth fits due to disorder of three humours.
Cooled water	The above said four diseases without fever.

Method - 3

The *muthu parpam* is useful in curing the following ulcers:
1. Kalavu 2. Mogai 3. Nagai 4. Thagai

Adjuvant:	Curable diseases:
Cold water	*Vathakkalavu* - Anorexia due to ulcer in the feet.
Whole plant juice of Carissa carandas	*Pitha kalavu* - Vomiting, excess appetite, thirst due to ulcer with dentalgia.
Tender tuber juice of bamboo	*Kapha kalavu* - Severe pain,appetite and anorexia will occur alternately due to ulcer in the bridge of the nose.
Whole plant juice of Limonia acidissima	*Vatha mogai*- Secretion of excess saliva due to ulcer in the neck.
Fruit juice of Anacardium	*Pitha mogai*- Itching sensation, appetite, occidentale thirst due to ulcer in the forehead.
Sugar candy powder prepared from reeds	*Kapha mogai*- Severe pain , anorexia, loss of from thirstdue to ulcer in the knee.
Whole plant juice of plantain	*Vatha nagai* - Anorexia due to circular ulcers appear surrounding the hip.
Fruit juice of jambul	*Pithanagai* - Itching sensation, excess appetite, Excoriative,giddiness due to ulcers formed in the bottom of the fingers.
Cow's curd	*Kapha nagai*- Dropsical swelling due to bad fluid, anorexia, loss of thirst, sour belching due to abdominal ulcers.

Vinegar	*Vatha thagai* -
	Painless bubo caused in thoracic cavity, diseases caused in axilla, anorexia, thirst due to ulcer on the back.
Alcohol or toddy	*Pitha thagai*
	Oozing of serum with blood and anorexia due to ulcer in the groin.
Hot water	*Kapha thagai*
	Oozing of serum with pus oozing, ascites, anorexia, loss of thirst and sleep, due to ulcer in the testicles.

The above said adjuvants should be used both internally and externally for ulcers.

Method - 4

Superior pearl (*Aaani muthu* -35gm.) is soaked in the juice of Vitex negundo (70gm.) for two days, ground for two days, made into thin pills, dried for two days and calcined with 40 cowdung cakes. The same process has to be repeated in the tuber juice of Curculigo orchoides, to get the purified *parpam.*

Adjuvants:	**Curable diseases:**
Water	Night blindness
Cow's milk	Defect caused by biliousness in the system (*pitha dhosa)* due to body heat
Juice of Ocimum album	Body pain
Curcuma aromatica	Agitation caused in deep sleep
Juice of Limonia acidissima	Diseases due to biliousness
Vitex negundo	*Vayu* diseases
Decoction of Cedrus deodara	*Vatha* diseases
Leaves juice of Aegle marmelos	Dysentery
Goat's curd	*Udanan* (vayu that goes up)

Sugar cane juice	Cramp due to vatha
Sugar	Vomiting
Ghee	Venereal heat
Butter	Haemorrhoids

Method -5:

Purified pearl is mixed with the white mustard juice, ground for three days and then calcined to get the parpam It cures the patches, dysuria and venereal diseases.

Muthu chunnam:(Pearl) :

Purified pearl is placed in a flask made of root of the Trianthema decandra *(Saranai.)* and subjected to puda process to get the *Muthu chunnam.*

Adjuvant :	**Curable diseases:**
Water	*Vatha* diseases.
Ghee	Body heat
Butter milk	*Pitha* diseases

Other method:

Three parts of Asarum europaeum (*nilakkadambu*) is added to one part of the purified pearl and ground for three days; then made into pills and dried and covered with mud pasted cloth and put to puda to get the *chunnam* purified.

If the *chunnam* is taken with the betal leaf instead of lime, it cures pitha-kapha disorders, bronchites, tuberculosis,dyspepsia, hiccough, loss of taste etc. It improves body strength and prevents greying, wrinkling and old age besides giving longevity.

MUTHU CHENDOORAM (PEARL)

Purified pearl (35gm) is taken and ground with the juices of Jasminum trichotomum *(mullai)*, Majorana hortensis *(marukkozhundu)*, and Coccinia grandis *(kovai)* and put to *puda* process to get the *chendooram*

Adjuvant:	**Curable disease:**
Water	Tuberculosis

Sugar	Deep seated pain *(soolai)*
Ghee	Venereal disease
Bark Juice of Acacia arabica	Loss of appetite
Palm jaggery	Delirium
Breast milk	*Pitha* fever
Butter	Fever due to indigestion
The balbous root of lotus	Hiccough with nausea
Wild Garcinia xanthochymus *(malai patchai)*	Delirium due to excess heat
Butter milk	Dyspepsia
Milk	Hallucination

8. *VAIDURIYUM*

(CAT'S EYE – LAPIS - LAZULI, CHRYSO PRASE)

Vaiduriyam shines as white and yellow colour light. It is available in nature. It is found in the earth in plenty in countries like Brazil, Uruguvey.

Vaiduriyam is effective in the management of seven dhosas, viz. *kaphavatha*, phlegm,sour belching, deep seated pain *(soolai)*, *vatha gunmum*, pitha, , deviation from prescribed diet etc.,

Purification:

Vaiduriyam is kept soaked in horse or cow's or donkey's urine for a whole day. It is then taken out and again soaked in the juice of unriped ash pumpkin fruit for one day. It is then washed in hot water to get purified .

VAIDURIYA PARPAM

The purified *vaiduriyam* is kept soaked in the root juice of *Aerva lanata (sirupeelai)* for three days. It is then placed in *vachira kugai* and subjected to *gaja puda* thrice to get the *parpam.*

If the *parpam* is taken in honey, pitha will be relieved and the *parpam* will stimulate appetite and give strength and long life.

9. *VAIRAM* (DIAMOND)

Diamond is a powerful hard substance. It is considered that it can cut glasses and even metals. In India, it is obtained from the mines of Golgonda and Deccan. Precious diamonds are obtained from the mines of Joneperk in South Africa.

According to our ancient texts diamond was obtained in various colours as mentioned below:

Place	**Colour of Diamond**
Kosala	Srissa flower *(vaagai)*
Kalinga	Golden
Madhanga	Jasmine flower
Himalayas	White
Maharashtra	Red
Savveeram	Black
Pundaram	Blue Indian water lily
Magadham	Golden

There are three varieties in diamond viz; male diamond, female diamond and eunuch diamond and they have the following qualities.

1. **Male Diamond :** Suitable for males ; gives freshness, attraction, shiny appearance and happiness.

2. **Female Diamond :** Suitable for females; Hexagonal in shape. It has stripes and dots. If combines with mercury it gives happiness, health,wealth,beauty and sexual pleasure.

3. **Eunuch Diamond :** Suitable for eunuchs ; triangle in shape. It is weightless and has dullness. It has no good effect.

Properties and uses of diamond:

Diamond gives shining appearance to the body and cures eye diseases. It has improving, body strengthening and hyperthermic properties; it improves spermatogenesis

Purification of Diamond:

Method: 1

The diamond is kept soaked in the urine of female horse for three days,and dried in sunlight to get purified.

Method: 2

The diamond is kept inside a lemon and boiled in the juice of Sesbania grandiflora *(agathi)* to get purified.

Method: 3

The diamond is soaked in the root juice of Solanum surattense and made as gruel with horsegram, rice and Italian millet and put into *thola yandiram* process for three days to get purified.

VAIRA PARPAM

Purified diamond is kept soaked in the juice of vitis quadrangularis for three days. On fourth day, after drying, it is placed in a small cave, covered with mud pasted cloth, put to *gaja* puda. After cooling, the *parpam* will be obtained.

Other method:

Three years old root of cotton plant is ground with well ripen betal leaf juice and made into paste, The purified diamond pieces are buried in the paste and put into a pot , covered with mud pasted cloth and calcined *(gajapuda)*.This process is repeated for seven times, to get the *parpam.* The parpam should be white in colour with floating capacity

If the *parpam* is taken in honey in the doses of 8-16mg, the body will be free from diseases.

If the diamond is worn as an ornament, it frees the mind from fear and worries and strengthens the heart; when worn by pregnant mothers with severe labour pain, the baby will be delivered without complications; when the diamond impressed hand ring is worn, it controls epilepsy.

Signs and symptoms of diamond poisoning and antitode:

Diamond is often used for the purpose of suicide. The diamond is powdered and taken internally; When diamond reaches the intestine it causes cut injuries in the intestine and abdominal pain and blood in the stool.

As antidotes, lubricant fruits such as plantain and castor oil should be given. In addition, ghee mixed in cow's milk should be given in large quantities and then vomiting should be induced by touching the inside of the throat with fingers.

Other preparations of nine gem stones include *Navarathina parpam* and *Navarathina bhoopathi.*

NAVARATHINA PARPAM

Nine kinds of gems (1 paise weight) are ground with milk of calotropis gigantea. Pills are made, dried and put to puda to get the *parpam.*

The parpam when taken along with *rasa parpam* in equal quantities, controls delirium which causes giddiness, cough, hiccup, flatulency, painful poisonous, pyrexia, leprosy etc. as described in the following Tamil verse:

" சொற்கனக ரத்தின நவத்திலொரு காசெடை
அர்க்கவடிப் பாலதனை விட்டரை யுலர்த்திடு
மிக்கபுட மிட்டிட வெழும்துரிய நீறதாய்
விட்டதனில் வைத்தரச பற்பமதி லோரெடை
வர்க்கநறு நெய்துளி மதுத்துளி தனித்திட
மருட்பிரமை விக்கல்பொரு மல்லிருமலோடிடும்
துக்கவிஷ மற்றிடு சுரத்தோடு கனத்தநோய்
அற்றுவிடு மித்தனையும் பற்பநவ ரத்னமே."

NAVARATHINA BHOOPATHI

The essential ingredients of this compound medicine are *parpams* of *Navarathinam*, gold, yellow arsenic trisulphide, silver, copper, iron, lead, mica, mercury, sulphur and magnet. They are ground in the juices of bitter gourd leaves and ginger and placed in a flask. They are then burnt in *valuga* apparatus. They are then taken out, ground with fish bile and rolled into balls and dried to get the *Navarathina bhoopathi.*

This *Navaratina bhoopathi* when taken along with proper adjuvants, cures many major diseases.

VI. UPARASAM

1. *Appiragam* (Mica)

Mica is also called as *Poovindhu natham, Manonmani natham, Prakasa sakthi. Kesaram, Kownam, Maavindhu, Ambaram, Kaakkai ponn* and *Thulliyam*.

Mica is available in nature especially in the mountains. In India, it is available in places like Nellore, Ajaribagh, Madhya Pradesh and Rajaputhanam. In Tamilnadu, it is available in Tharangampadi. This appears as sheets with shiny appearance; it can be bent and is soft in consistency. Mica will be useful for preparation of medicines and also for the decoration of palanguin, wedding shamiana, etc.

Mica is used as a medicine, in the form of *parpam, chendooram, chunnam* or *chaththu.*

According to the text *'Bhoar's* 7000', the mica is classified into four types depending upon their colours.

1. *Pinaga appiragam*,wich is golden in colour.
2. *Naga appiragam*, which is white in colour.
3. *Mandooga appiragam*, which has the colour of honey
4. *Vajjra appiragam* ,which is black in colour.

While *naga appiragam* causes phlegm, *mandooga appiragam* causes some diseases and *vajjra appiragam* cures all types of diseases. When *vajjra appiragam* is used as medicine, it should be used only in the form of *parpam, chendooram, chunnam, kalangu* or *chaththu.* It should be purified before the preparation of medicine. If impure, it will cause severe toxicity.

Purification of Mica

To 1 part of mica, 8 parts of Agati grandiflora flower juice is added and the mica is kept soaked in it for three days; then the mica is kept soaked in vinegar and in calotropis flower juice for three days in each. The mica is washed and then taken out in the purified form.

Properties and uses of mica:

Medicines prepared from mica has got bitter taste and body strength-

ening and sexual stimulant properties. It is useful in the treatment of abdominal distension, polyuria, fever, itching and eye diseases. It also improves spermatogenesis.

Preparation of *Appiraga parpam:*

Purified mica powder (35 gm) is taken and ground with various juices and pills are made as follows:

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1. Juice of cluster bean Cyamopsis tetragonoloba (Koththavarai)	210	6	5	1	40
2. Leaf juice of Nymphaea stellata (neclortpalam)	175	5	4	1	36
3. Leaf juice of Cocculus hirsutus (kattu kodi)	140	4	3	1	30
4. Juice of tubers of tender bambo (Bambusa bambos)	105	3	2	1	27

The *parpam* will be effective in the following conditions:

Diseases associated with *kapha, vatha* and *pitha*, diabetes, watering from eyes, burning sensation in eyes etc.

It is effective in the treatment of poisoning such as snake bite, dog bite and insect bite etc..

The *Appiraga parpam* should be taken for 42 days. The following diets should be avoided during treatment: Tamarind, tobacco, mustard, alcoholic beverages and Agati grandiflora. Sexual contact should be strictly avoided, otherwise even death may occur

APPIRAGA CHENDOORAM

Preparation method - 1

Purified mica powder (35 gm) is taken and ground with the following juices as follows.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1. Leaf juice of Momordica charantia *(kombu pagal)*	140	4	3	1	30
(Repeat the process for 3 times)					
2. Lemon juice	245	7	6	1	30
(Repeat the process for 6 times)					

The chendooram will be useful in the following conditions:

Adjuvants	Curable diseases
Juice of gooseberry	Hydrocele
Water	Fever
Basil juice	Heat
Hot water	*Vayu* related diseases of lungs and heart
Juice of Daemia extensa	Cramp
Cotton leaves juice	Epilepsy
Cows' ghee	Cough
Breast milk	Fever with burning sensation
Cassia auriculata	Delirium
Toddy	Delirium due to *kapha*
Old rice water	Leprosy

This *chendooram* cures venereal diseases, protects the body from diseases and keeps the body in good health.

Method - 2

Purified *appirga navaneetham* (35gm.) is kept in a porcelain jar, and the juice of wild variety of Chrysanthemum coronarium *(chamanthi)* is poured into it and soaked for three days. It is then ground well with the above juice to become waxy consistency, made as pills, dried in shade for three days and then it is dried in sunlight, covered with mud pasted cloth, calcinated with 50 cow dung cakes. The calcination is repeated for seven times to get the purified *appirga chendooram*. It cures venereal diseases and diuresis.

Method - 3

Ten parts of purified *appirga navaneetham* is mixed with one part of purified sulphur, adding the lemon juice ground well like paste, made as pills to the size of a coin. Then they are dried in sunlight and calcinated. The resultant process is added with purified sulphur 1/10 part.

The process is repeated with the juices of

i. Eclipta prostrata
ii. Mollugo lotoides
iii. In flower juice of Moringa oleifera and
iv. Phyla nodiflora and *pudas* are done as explained above to get the *appirga chendooram* purified.

Dosage: 122 to 488 mg.

Curable diseases: As mentioned above.

SORNA APPIRAGA CHENDOORAM

Ingredients:

Appirga chendooram	17.5 gm
Pavazha parpam	17.5 gm.
Fine gold plate	8.75 gm.
Rasa pathangam (Sublimated mercury)	17.5 gm.
Ayakaantha chendooram	17.5 gm.
Karuvanga chendooram	4.4 gm.

The above said ingredients are triturated with Indian aloes juice. Pills are made, dried and put to *puda* with twenty cowdung cakes. The purified sulphur (the dose equivalent to the half of the weight of the pills

and cinnabar (the dose equivalent to half of the weight of the sulphur) are taken. Pills are made, dried and put to *puda*. The *puda* process is repeated for seven times to get the *chendooram*.

The *chendooram* is effective in all the twenty one types of venereal diseases.

The *parpam* or *chendooram* prepared as said above should not be shiny but floatable in water; otherwise the *parpam* or *chendooram* will be quite toxic. The toxicity may be counteracted by taking the tuber decoction of Gloriosa superba.

2. ANNA BEDHI

(FERROUS (IRON) SULPHATE, GREEN VITRIOL)

Ferrous sulphate is savailable cheaply in medical shops. This is prepared from the combination of iron rod and sulphuric acid. It is soluble in water but insoluble in alcohol. On exposure to air, it becomes as white powder.

Purification:

The ferrous sulphate is dissolved in water. A small quantity of sulphuric acid is added to it filtered and heated till it attains the consistency of dry salt.

Properties:

This has got bitter, body strengthening and hypothermic properties. It also destroys the worms and improves the development of sexual functions.

The following points are to be remembered while using the ferrous sulphate:

1. When the ferrous sulphate is taken, the stool will be black in colour with bad smell.

2. Ferrous sulphate should be taken continuously with a regular gap, once in a week.

3. If the ferrous sulphate is consumed in excess quantity,the stool will be blackened besides causing constipation.

4. When this sulphate is taken continuously. good results will be obtained when a laxative is given once in ten days.

5. Tamarind and other sour food articles should be avoided during the treatment with ferrous sulphate.

6. When used in children, it should be given in small doses.

7. The ferrous sulphate should be taken after the food only.

Ferrous sulphate has got distinguishing power to dissolve the food into liquid form. It cures, piles tumour, deep seated pain, indigestion,ascites, tumour due to splenohepatomegaly, jaundice,dropsy, amennorrhoea, gonorrhoea, fever boils, intermittent fever,chronic cough and worm infections. Ferrous sulphate can be used for external application for the diseases, like herpes,venereal sore, piles with abscess ,haemorrhoids,uterus sore etc. Since ferrous sulphate contains iron, the diseases cured by iron, can also be cured by ferrous sulphate .

Uses of *Annabedhi* (Ferrous sulphate):

1. The *annabedhi* is triturated in a mortar by adding water till it attains jelly consistency. When it is applied externally in case of rectal prolapse, uterine ulcer, and prolapsed uterus, the organs will shrink internally.

2. For bleeding haemorrhoids, the ferrous sulphate powder (4.2 gm) is dissolved in 280 ml of water and applied daily. The bleeding will stop. The preparation can also be applied topically in cases of eezema, venereal ulcer and uterus cancer

The Siddha physicians do not prescribe the ferrous sulphate as such but are using in the form of *chendooram*. The physicians of other systems of medicine prescribe ferrous sulphate as such alone as follows:

a Ferrous sulphate (130 mg) is mixed in 28 ml decoction of Andrographis paniculata *(nilavembu)* or bishop's weed (omum) water and given thrice daily for dropsy, jaundice and loss of strength.

b. Ferrous sulphate powder 2 gm. is mixed in 780 mg. of black aloe powder *(kariyapolam)* and ground adding sufficient quantity of hony and 24 numbers of pills are made. It is taken for three times (two pills per dose), cures dropsy *(paandu)* associated with gonorrhoeal diseases.

c. Ferrous sulphate (780 mg) is ground with pepper powder (975 mg) by adding sufficient quantity of honey. Twelve numbers of pills are

prepared from this, two pills are taken twice daily with the decoction of Andrographis paniculata *(nilavembu)* or decoction of Tinospora cordifolia *(ceenthil)* for the control of intermittent fever.

d. For treament of anaemia, ascites and loss of strength, iron sulphate (65 mg) dissolved in 560ml of water is given whenever thirst appears and during other medications if any for best results.

ANNA BEDHI CHENDOORAM

Purified iron sulphate is dissolved in vinegar. Pills are made and put to two or three *pudas* to get the *chendooram*. The *chendooram* will be effective in the treatment of fever, dysentery and jaundice.

Dose: 65 - 130 mg.

Other method:

Purified iron sulphate is dissolved in lemon juice, put in a flask and calcined to get the *chendooram*. Adjuvant and curable diseases, dosage are as mentioned before.

VEDI ANNA BEDHI CHENDOORAM

Purified iron sulphate (1part) is mixed with purified potassium nitrate (¼ part) in lemon juice and put to two or three *puda* to get the *chendooram*. Adjuvant and dosage are as mentioned before. The *chendooram* is very effective in the treatment of anaemia, jaundice, ascites etc.,

Other method:

Iron sulphate (35gm.) is ground with the juice of Mollugo lotoides, it is calcined with 5 cowdung cakes for three times, it becomes a dark red in colour. Adjuvants and dosage are as mentioned before. The *chendooram* will be effective in the treatment of anaemia, dysentery, loss of body strength etc.

3. *KARUNG KAL*

(BLACK STONE)

Kodo millet grasses are kept in a blackstone rock and burnt tll the stone become hot. Then the kodo millet grasses are removed The white of hen's eggs is poured on it and rubbed with another blackstone, and the paste is used externally for curing the swellings and arthrophyma.

4. *KARPOORA SILASATHTHU*

(CRYSTALLISED FOLIATED GYPSUM)

Karpoora silasaththu, which is a combination of alum and iron available in nature and is available in plenty in Nepal. It is taken out from the earth as thick sheets.

Purification:

Method - 1

The impure form of *silasaththu* is placed in milk and the milk is boiled then. The silasaththu is taken out after washing.

Method - 2

The impure form of *silasaththu* is placed in lemon juice, boiled, dried and soaked in milky juice of Calotropis gigantea and washed to get it in purified form.

Method - 3

The impure form of *silasaththu* is soaked in tender coconut water, boiled till it evaporates and washed, to get it purified .

Actions :

It has the actions of diuresis, litholysis, astringent, hemastosis, and body stimulant.

General properties:

Silasaththu is useful in the treatment of vesicle calculas, gonor-

rhoea, hyperomia, abscess with pus, stranguty, articular rheumatism and spermatorrhoea. The *silasaththu* generally exuded from rocks and therefore it is called as *kallaga saththu.*

Silasaththu also cures gonorrhoea, internal ulcers, hypertension, haemorrhagia, *kapha* diseases,chronic cough and dysentery.

Silasaththu is used in the form of *parpam* at the doses of 650-1300mg.with suitable adjuvants.

KARPOORA SILASATHTHU PARPAM

Preparation method - 1

The purified *silasaththu* is placed in a mortar and ground with the juice of Mollugo lotoides. Pills are made and put to *puda* with 50 cow dung cakes. The *puda* process is repeated thrice to get the whitish *parpam.*

The *parpam* given with cow's butter controls burning sensation of the skin, gleet and dysuria.

Method - 2

The *parpam* (10.2 gm.) is put into a hearth, purified borax (20.4gm.) is added on it. Again put the *parpam* over it, close the hearth with a lid and seal it with a mud pasted cloth, calcined with large size of dung cakes, and collect the process after cooling . If it is given with butter, it cures strangury and dysuria.

For curing vesicle calculus in the urinary tract, the *parpam* is taken with the head stone powder of a murrel (a stone of a pea size found in the head of murrel) mixed with milky juice of common cucumberseed. If it is not cured, 325 ml of radish juice with 122 mg. of *parpam* may be given by which the calculus will be falldown.

Method - 3

Limestone is applied on the *silasaththu*, dried and put into a tile. Then put to *gaja puda*, to become whitish. The resultant limestone is removed and put in a mortar adding the aloes juice, ground well, made as pills and dried. Then it is covered with mud pasted cloth and calcined *(kanapuda)*. After cooling, there will be a fine *parpam.*

Dosage : size of a tamarind seed.

Adjuvants: Ghee, milk and tender coconut water.

Curable diseases: Strangury due to venereal heat and dysuria. If it is administered with ghee, stomach pain due to heat will be cured.

Method - 4

The *kavasam* prepared from limestone is calcined and the *silasaththu* is ground with the juices of red variety water lily or its tuber, made as pills, dried and covered with mud pasted cloth and calcined *(kanapudam)*. After cooling it is taken out. The above process is repeated for three or four times to get the *parpam* which will appear reddish white in colour. This can be calcined with the juice of ivy gourd also.

This *parpam* 130 to 260 mg. is taken with suitable adjuvant, for curing haemorrhagia.

Method - 5

A great Indian aloes stalk is split into two parts and filled up by fenugreek. The *silasaththu* purified with coconut water is kept in between the aloes stalk and tied well with thread and kept in shade for three days. On 4 th day the fenugreek sprout will come up. At this stage put into *puda* process with mud pasted cloth using 25 cowdung cakes.

Dosage and indications:

If this *parpam* is taken in required quantity with suitable ajduvants, it cures dysentery due to heat, burning sensation in anus and urinary tract infections.

THIRIKADUGU MAATHIRAI

The *silasaththu parpam* (made by grinding with the leaf juice of Coccinia grandis *(kovai)* and put to *puda*) is taken (280 gm). Dried ginger *chooranam* (35 gm), pepper powder (35gm)and Piper longum powder (35gm) are added to it and they are ground in a mortar by using the leaf juice of Coccinia grandis for 2-3 days. Pills *(maathirai)* are made to the size of pepper, dried in shadow and kept stored.

Dose : 1-2 pills.

This *maathirai* is effective in the management of fever especially for typhoid fever associated with diarrhoea when given in warm water or milk.

5 . *KALNAAR*

(ASBESTOS)

Asbestos is available in nature. In India, it is available in plenty in Karnataka State. It is also available in plenty in Japan and is taken out from the earth by cutting into thick sheets. It gives appearance of the stone and when crushed it becomes fibre like material. Asbestos has got diuretic and bitter properties.

Asbestos may be useful in the following disease conditions: Rheumatism , disease of teeth, gingivitis, urethritis, urinary retention, bilious vomiting, dysuria, spermatorrhoea, indigestion, hernia, thirst due to bilious etc.

Purification:

1. Asbestos is heated in donkey's urine for 1 ½ hours and then washed and dried in sunlight.

2. Asbestos is kept in cow's urine for ten days and then taken out after washing.

KALNAAR CHUNNAM

Asbestos is ground with lemon juice. Pills are made, dried and placed in a *Kugai* and blown through a bellow. The *chunnam* will be obtained in white colour. According to *Bogar.* if the *chunnam* is taken with betal leaf, it bestows *kayasiddhi.*

KALNAAR PARPAM

Preparation Method - 1

Asbestos which was purified in cow's urine is ground with Aristolochia bracteata juice and pills are made, dried and put to *Gaja puda* to get the *parpam.*

When the *parpam* is taken along with ghee or butter at a dose of 260-520 mg is effective in burning micturition, urinary retention and spermatorrhoea.

Method - 2

Asbestos is broken into small pieces and placed in a brick shell. The bark of Cochlospermum gossypium *(kongilavam)* is pulverised and placed over and below the asbestos pieces and put into *pudam*; it is then ground with the above decoction and again subjected to three *pudas* to get the *parpam*. When the *parpam* is taken in honey or Solanum trilobatum electuary, it is effective in the treatment of *kapha* diseases and 96 types of venereal heat. When the tooth is brushed with this *parpam*, the tooth will be strengthened.

Method -3

Sufficient quantity of asbestos is soaked in a holed tender coconut for three days, and ground with lemon juice, made as pills and dried. Bark powder of Thespesia populnea *(poovarasu)* is kept in a tile and the pills are kept over it and then the bark powder is covered with mud pasted cloth, calcined with 25 cow dung cakes, to get the *parpam*.

Method - 4

Asbestos is cut into small pieces and kept in an *aghal* and the root powder of Calotropis gigantea is poured up and down of the *aghal*. Then it is covered with mud pasted cloth and put to *gaja puda*. Again thus process is repeated with milky juice of mudar and subjected to three *pudas* to get the *parpam*.

Dosage: 650 mg.

Adjuvant: Honey, electuary of Solanum trilobatum.

Curable diseases: As said before.

6. KAL CHUNNAM (LIMESTONE)

The limestone is available in nature in plenty. The limestone is placed in a big pot and water is added and converted into slaked lime for use. The limestone has got body strengthening, bitter, deflatulant and ulcerogenic properties.

General properties :

Limestone helps in digestion of food; removes fatty matters in the intestines, stimulates the secretion of semen; gives strength to teeth; controls diarrhoea, inflammation due to *vatha*, toxicity, haemorrhagia, burns, scabies, allergy, ulcers, filaria, head diseases and delirium as described in the following Tamil verse:

" உண்டவனஞ் சீரணமா நெய்ச்சிக் கேகு
    மூறில்விந்து விற்கூக்க முறுங்காண வாயில்
விண்டவெயி றிதுகுமறற் பேதி வற்றும்
    வெந்தளித்த நீர்ச்சுருக்கும் விலகு மெய்யை
யண்டுபல விடமொழியுங் கறையோ நிற்கு
    மழலுறுபுண் சிரங்குநமை யழுபுண்ணாறுங்
கண்டவுரு வன்மீகஞ் சிரநோய் சந்நி
    களுங்கரக்குங் கற்சுண்ணாங் காணுங் காலே."

Uses of limestone:

1. The old limestone is powdered and placed in a brickshell and heated. It is then placed in a cloth and the cloth is rolled and applied over the site of the pain in the body.

2. The limestone is diluted with the juice of Daemia extensa and converted into slaked lime which is chewed with betel leaf for *kaphasanni vayu*.

LIME WATER

Slaked lime (70 gm) is placed in a flask with a stone cork. Water (4.2 litre) is then added and shaked for two to three minutes. The flask is kept in a place and the clear liquid obtained is filtered and collected in a green coloured bottle which is closed air-tight.

Other uses of Limestone and Lime water:

1. When given in cow's milk at the dose of 21 ml. to 84 ml. it removes the acidity in stomach, when given in cow's milk for children, at the dose of 4ml., it controls vomiting.

2. When the lime water and coconut oil are mixed in equal quantities and applied over the burns, the wounds heal.

3 The limewater is given with milk as an antitode for the victims of poisonous acids.

4. If the paste of limestone and honey is applied on the throat-pit, dry cough is controlled; which is also apply as external use to heal the abscesses.

5. If the paste of limestone is applied on the umbilicus, it subsides abdominal pain, strangury and dysuria.

6. The limestone paste prepared with the juice of Acalypha indica*(Kuppaimeni)* is useful for the insect bites like centepede, beetles and wasp.

7. In case of scorpion bite, a small quantity of limestone is placed over the site of the bite and this site is rubbed with onion.

8. The limestone is mixed with small amount of jaggery and applied on the injuries to control the bleeding.

9. When the lime water is given in cow's milk,it controls burning micturation.

10. The lime water (28 ml) is ground with 26ml of juice of Bombax malabaricum and taken internally for controlling white discharge and excessive menstruation.

11. When the limestone and pearl *chunnam* are mixed in equal quantities and applied over the warts, the warts will disappear.

12. Limestone is also useful for the purification of *Thalaga*, Semecarpus anacardium *(serankottai)* and tortoise shell. It is also used in the preparation of *parpams* of *vanga* (lead) *chunnam* and *Silajit*.

7. *KAADI KAARAM*

(Nitrate of Silver)

Preparation:

Pure silver (42 gm), potassium nitrate acid (28 ml) and *theeneer* (56ml) are taken. The acid is mixed with *theeneer* and the silver is then added and all the ingredients are placed over a mild flame and allowed to melt. Water is removed from this and again heated with big flame till the salt is settled at the bottom. This salt is then melted in a *kugai* and then poured over casts lubricated with oil; the nitrate of silver obtained is then collected in blue coloured bottles.

Actions: Astringent, caustic and antiseptic.

Properties of Silver nitrate:

Silver nitrate is be useful in the treatment of diarrhoea, eye diseases, venereal affections, fungal infection, poisonous bite and the disease of the throat. When given in excessive doses, it is toxic.

KAADIKAARA CHENDOORAM

Method - 1

Cinnabar (35 gm.), *rasa chendooram* (35 gm.) and silver nitrate (35 gm.) are powdered separately. Half of the portion of the *rasa chendooram* is placed in a flask with a stone cork. Half of the portion of the Cinnabar powder is placed over the *rasa chendooram*. Then whole portions of the silver nitrate is placed over these ingredients. Remaining half portion of the cinnabar and *rasa chendooram* are also placed. The flask is closed tightly and covered with layer of leather. The flask is then placed in the centre of the paddy heap which was boiled with water. After cooling, the derivative in the bottle is taken out and ground in a mortor to get the *chendooram.*

Dose: 32-65mg.

Adjuvants: Honey, ginger juice and the juice of Ocimum sanctum.

The *chendooram* is effective in the treatment of palsy and dysentery.

Method - 2

Silver nitrate, when applied over necrosed wounds and chronic ulcers and piles, the wounds will heal. In case of snake bite and dog bite, this can be rubbed at the site of the bite for removing the poison.

Silver nitrate can also be used to control the bleeding caused by leech bites.

Method - 3

For treating the eye diseases, silver nitrate solution (325 or 640 mg) dissolved in 28ml of vapourised water *theeneer* can be applied as eye drops for infants and others. It can be used for curing the disease of the throat,sinusitis, and yellow spots on the mouth *(thuththi noi)* as external application .

Method - 4

For intestinal inflammations developed due to chronic dysentery Douch wash solution (external use)

1. with solution of silver nitrate of 130 mg in 2 litre water.

2. solution of lime(*Vellai)* 65 mg. with 130 mg. silver nitrate in 560 ml. water.

Signs and symptoms of silver nitrate poisoning and antidote:

Overdose of silver nitrate may affect the stomach and intestines and may cause vomiting, dysentery, weakness etc. Finally coma and death may also occur.

Treatment of poisoning:

Vomiting is induced for removal of poison. Common salt, milk and white of egg are given to induce vomiting.

In allopathic medicine, silver nitrate is used as a disinfectant and as 1% solution for prophylaxis of ophtalmia neonatorum, drops are instilled into each conjunctival sac of the neonate. In the form of stick,it has been used as a caustic to destroy warts and other benign skin growth.

In Great Britain, the recommended exposure limits of soluble silver compounds (as Ag) are 0.01 mg per m^3 (longterm); 0.03 mg per m^3 (short term).

8. *KAAVI KAL*

(RED OCHRE)

Red ochre has got astringent taste and cool potency. It controls excessive bleeding - anti coagulant. This may be useful in the treatment of eye disease, venereal disease, vomiting and extensive eczema.

When red ochre is triturated with water and applied over the gold sheets and heated in fire, the gold will be obtained in purified form.

When the tooth is brushed with red ochre, it controls hypersensitive dentine, tooth pain and gum bleeding.

Red ochre 1/3 part and fried alum 1/5 part are powdered and mixed together and heated. This preparation when taken along with sugarcane jaggery, it controls excessive menstrual bleeding.

For curing herpes, red ochre is dissolved in water, made into paste and applied on the affected areas.

When red ochre is applied as a paint over the walls and mud pots, it may acts as an insecticide.

POONKAAVI CHENDOORAM

The red ochre is dissolved in water and filtered. The residue is dried and then powdered to get the *chendooram*, which is used in medicine individualy or with suitable adjuvants for the treatment of diarrhoea with bleeding, haemorragia and vomiting.

Dosage: 650 mg.

9. GOMOOTHIRA SILASATHTHU

(ASPHALTUM)

Asphaltum is a substance which is obtained from the mounts. It is of two types:

1. *Karpoora silasaththu*: It has the smell of camphor and the shining of crystal.

2. *Gomoothira silasaththu*: It has the colour and smell of cow's urine. This type as asphaltum is available in the mountains of Haridhuvar, Simla and, Nepal, Hironia and Isthabana.

Gomoothira silasaththu is of four types:

1. *Kanaga silasaththu:* This is available in mountains where gold is present.

2. *Velli silasaththu*: This is available in mountain where silver is present.

3. *Sembu silasaththu:* This is available in mountains where copper is present.

4. *Aya silasaththu:* This is available in mountains where iron is present.

Asphaltum is also available in mountains where tin and lead are present *eama silasaththu* and *sembu silasaththu* are rarely available.

Eama silasaththu is useful in *vathapitha* disorders.

Velli silasaththu is useful in the *kaphapitha* disorders.

Tambira silasaththu is useful in *kapha* diseases.

Aya silasaththu is useful in the disorders caused by three humours.

Aya silasaththu is also useful in *Kaya kalpha* treatement and in geriatric disorders.

Gomoothira silasaththu retains its potency for about 40 years.

Test for *Gomoothira Silasaththu:*

1. When placed in water it will spread in red colour.

2. Ghee is heated and *gomoothira silasaththu* is added (poppy seed size). A hen's leg is broken and the ghee is given to the hen internally and also applied at the injured site. If it is pure asphaltum, the hen will walk within two hours. If it is adulterated one, it will walk only on the next day.

3. When heated in fire, pure asphaltum will burn without smoke. After burning, it's appearance will resemble *ayachendooram*. Thus pure asphaltum cannot found anywhere except in Percian country.

The asphaltum should not be given to people with warm body. Honey should be given to them as antidote.

Dosage : 65mg.

The asphaltum has got the properties of potentiating the effect of other drugs given concomitantly. When applied externally, it has analgesic, anti-inflammatory and anthelmintic properties. When taken internally, it has got body strengthening, stimulant, anti phlegmatic, anti biliousness, laxative, mucolytic deoderant and diuretic properties.

Uses:

1. The asphaltum may be effective in burning micturition, ulcers of the urinary tract, gonorrhoea, ulceration of the tongue and hypertension.

2. It strengthens the heart and nerves besides increasing the masculinity and sexual potency.

3. It is also effective in asthma, tuberculosis, disease of the intestine, sterility, *vatha* disease, swellings and ulcers, urinary tract infections, dysmenorrhoea and rheumatism. This is also effective in rapid union of fractured bones. It removes calculus in the urinary and gall bladders. It is also useful in skin diseases.

Purification methods.

1. The asphaltum is mixed in hot water and filtered by using a thick cloth and dried in the sun shade; a layer will be formed over the filterate which is removed and dried. This procedure is repeated till no more layer is formed.

2. The asphaltum is purified wth cow's urine, as said before.

3. The asphaltum is ground with cow's milk, decoction of three myrobalans and with the juice of Eclipta prostrata for the whole day and dried.

Adjuvants and curable diseases :

1. For diseases occurring over the cheek and tongue, about 65 mg of asphaltum is mixed in hot water and applied over the sites.

2. For diseases of nose and ear pain, it is mixed in hot water or rose water and used as nasal and ear drops.

3. The asphaltum is mixed with equal quantities of musk and borneo camphor and ground well with betal leaf juice and applied as a topical application for chronic headache.

4. For ear diseases (inflammation of ears, etc), the asphaltum is tied in a piece of cloth and inserted into the ears.

5. It is applied over the tongue mixed with honey for slurred speech and thick tongue.

6. The asphaltum (2 grain weight- 130 mg) is given with the juice of wild variety of Zizyphus mauritiania (*kaattu ilandai)* or with the mixture of honey and water or with honey and milk for mild cough.

7. When 65 mg. of *silasaththu* is given with donkey's milk, it controls initial stage of mania and the bleeding from mouth.

8. For the abscesses developed due to *kapha* and *pitha* fevers, the *gomoothira silasathu* is given with the decoction of cotton seeds or coriander seeds for 4-5 days.

It may also be given for the splenomegaly.

9. For haemorrhoids due to *vatha*, it is given with cow's ghee.

10. *Gomoothira silasathu* is given with the decoction of Piper betle *(Vetrilai)* for the uterine disorders caused due to gastric troubles and in unconciousness.

11. The *gomoothira silasathu* (65 mg) sticks prepared with wheat flour is inserted into the urethra for curing the urinary diseases.

12. For prolapsed rectum, it is mixed in coconut oil and applied for 2-3 days.

13. *Napunjsath›am:* When the asphaltum (130 mg) is mixed with yellow yolk of half boiled hen's egg and taken once daily for three days along with bread and meat, muscularity will develop rapidly. When 260 mg. of drug is mixed in coconut oil and applied over the penis the spermatogenesis will improve.

Bengal gram is soaked in water for one whole night and the water is filtered or an egg is poured over the boiling ghee and taken out of the oven before the yellow yoke is solidified.

If the *komoothira silasathu* (130 mg) is taken with any of the above spermetogenesis will be improved.

If the *gomoothira silasathu* (130 mg) is taken with honey(25 mg) it gives sexual potency.

For impotence and sexual desire *gomoothira silasathu* may be taken with honey or butter by *vatha* persons; and with sweet pomegranate juice by *pitha* persons.

15. For joint pain and back pain, it is applied topically after mixing with yellow yolk of hen,s egg. For this purpose, it can also be taken internally with rose water, cardamom decoction or gingelly oil.

16. For bite by wild dog and scorpion, it is mixed in the arrack of Acacia arabica bark and applied at the site of the bite.

17. If *gomoothira silasathu* is given with the leaf juice of Majorana

hortensis *(thavana ilai- marukkozhundu)* it cures cold, headache, giddiness and swooning.

18. For bone fractures *gomoothira silasathu* is (130 mg) boiled with ghee and given.

19. For chronic head diseases, 130 mg. of *gomoothira silasathu* may be mixed with equal quantity of *ceembal* (first milk given by a cow after calving beesting) and used as nasal drops.

20. For heaviness of head and ear-noise the above nasal drops is mixed with honey and used as drops in nose and ears.

21. The asphaltum *(silasaththu)* 130gm. is mixed with Cuminum cyminum and anise seed, and a decoction is made. It is taken internally for abdominal diseases.

22. For delirium and inflammation of urethra, the *gomoothira silasathu* (65 mg) is mixed with cow's milk (raw) and given.

23. For cuts and wounds the *gomoothira silasathu* (65 mg) is boiled with ghee and used both internally and externally.

24. The asphaltum can also be given along with *Appiraga (mica) parpam* for curing diabetes and the diabetic related diseases like hyper diuresis, thirst and apoplexy in the limbs *(karapatha sanni).*

For converting the *gomoothira silasathu* into *chunnam*, triturate the *Komoothira silasathu* with *Vediyuppu neer*(potassium nitrate), make pills and put into *puda* process using *seelai.*

10. *CENKAL* (BRICK)

Brick is mostly used for fomentation. When the heated brick is placed in water and the steam evolved is inhaled, many diseases can be treated.

The brick stone powder is heated in an earthen vessel and covered in a cloth and applied over the sites of muscle cramp regions of the body. It can also be applied for *kapha* diseases.

The brick stone is broken into small pieces and placed in fire. When they become red hot, they are placed in a copper vessel.

If a little quantitiy of breast milk is poured over the pieces, smoke will be formed. If this smoke is allowed to come in contact with the eyes by

keeping the eyes open for sometimes, sweating will appear over the face. Hot foementation be then continued for sometime. This procedure is useful in controlling the eye diseases and headache.

CENKAL KITTAM

When this is powdered and taken along with jaggery it controls excessive menstrual bleeding.

Dose: 2.1 gm.

11. *THURISU*

(COPPER SULPHATE)

Copper sulphate is available in nature and is also synthesized chemically. It is combined with sulphuric acid to form the copper sulphate salt which is blue in colour. When powdered, it is green in colour. This is soluble in water. Lead sulphate, pottasium nitrate, *thottipashana*, camphor, mica, alum, white pashna, lead ore, toddy, rock salt, zinc, lead and soap are considered antagonistic to copper sulphate. Yellow arsenic trisulphide, ammonium chloride, borax, perchloride of mercury, sulphur, mercury, bismuth, cinnabar etc., are considered as agonistic to copper sulphate.

The copper available nowadays in the market is not pure and it should be used only after proper purification.

Methods of purification of *Thurisu:*

Method - 1

1. The impure copper sulphate is dissolved in hot water and filtered. It is then heated till the salt is formed.

Method - 2

Thurisu is triturated with honey and ghee and boiled in a crucible. Then soaked in decanted milk-water for 3 days and dried. Thus purified *thurisu* is free from toxicity and never induces vomiting.

2. The copper sulphate is placed in cow's urine and heated. It is then washed with water and dried in sunshade to get purified .

Method - 3

The copper sulphate is fried, till it turns to whitish.

Properties and uses of copper sulphate:

It is a powerful astringent, emetic and antiseptic. It is an external stimulant, styptic and mild caustic. Dose, as an astringent is 1/8 th to 2 grain weight; as an emetic it is 5 grain weight, and is used in cases of poisoning.

Thurisu cures ulcers, eye diseases, disorders of three humors, fever and mouth diseases but causes vomiting, diarrhoea and heat.

For chronic diarrhoea and dysentery, copper sulphate (32 mg) is mixed with 32 mg of opium and given in the form of pills with honey, three times a day.

Copper sulphate (130 ml) is mixed with 56 ml of *theeneer* of bishop's weed and the mixture is given in doses of 4ml. for three times daily for controlling diarrhoea occurring in children.

Copper sulphate (325 mg) is dissolved in 28 ml of water and is given in doses of 4ml. for every 15minutes to induce vomiting. It is also useful in curing whooping cough.

Copper sulphate (325 mg) mixed in 14 ml. of honey is applied over the ulcers of the mouth.

For eye diseases and cataract, copper sulphate 65 mg is dissolved in 28 ml of water and instilled into the eyes twice a day.

Copper sulphate (4.2 gm) mixed in pig's ghee (44 gm) can be applied topically for ring worm infection.

If the bleeding from leech bite is uncontrolled by the application of alum, a little quantity of copper sulphate powder is rubbed over the bleeding site.

For the control of bleeding from the nose, copper sulphate 260 mg is mixed in 28 ml of water and inhaled into the nose.

Copper sulphate is given in a dose of 325 mg. in 560 ml. of water for every half an hour to induce vomiting in cases of orally ingested poisoning such as opium, datura, strychnine seeds. Anamirta cocculus seed, Indian aconite and white arsenic.

The copper sulphate is powdered and dissolved in water. A thin cloth is made wet with this solution and applied for hypertrophy ulcers.

Uses of copper in Modern (allopathic) medicine:

Copper sulphate is used as a source of copper in the management of deficiency states when it is usually given with parenteral feeds The dose should be governed by the serum copper concentration which in healthy adults ranges between 0.7 and 1 6 ug per ml. Doses that have been employed range from 0.5 to 1.5 mg per kg body weight; infants have received 20 ug per kg.

A 0.1% aqueous solution of copper sulphate has sometimes been used with care, for gastric lavage and emesis in phosphorus poisoning, an 1% solution has also been used to wash phosphorus burns.

Copper sulphate has been used to prevent the growth of algae ia reservoirs, ponds and swimming pools and has a molluscicide in the control of fresh water snails that act as intermediate hosts in the life-cycle of the parasites causing schistosomiasis and fascioliasis. Reagents containing copper sulphate are used in tests for reducing sugars.

As per the twenty-sixth report of the joint FAO/WHO Expert committee on food additives, the provisional maximum tolerable daily intake of copper from all sources, upto 500 ug per kg body weight. Assuming that an average healthy adult weight 60 kg, then the maximum daily intake of copper sulphate is 35 mg. But it is surprising that copper sulphate is used in Siddha medicine upto 130mg daily.

Preparation method of *Thurisu Chendooram:*

Method - 1

Purified copper sulphate (35 gm) is ground with fruit juice of Diospyros peregrina *(thumbi)*, bark juice of Acacia latronum *(kudaivel)* and Indian aloes juices are dried and put to *puda* process to get the *chendooram*.

Adjuvants	**Curable diseases**
Juices of phyllanthus niruri	Bilious heat *(pitha kaaragam)*
Latex of Ficus benghalensis	Bilious vayu *(pithavayu)*
Juice of Cassia fistula	Apoplexy with nausea
Juice of areca nut tree	A kind of tetanus *(thanur vayu)*

Sugar	Ascites due to apoplexy
Breast milk	Continued fever
Butter	Epilepsy
Water	A kind of *vatha* *(tharunavatham)*
Juice of Allium cepa	Delirium
Juice of Lagenaria siceraria	Phlegm due to apoplexy

Method -2

Thurisu (35 gm) is triturated with neem leaves (70 gm) in a stone mortar without adding water and made into pills. Then Cissus quadrangularis (Pirandai) is triturated and the pills are inserted into the *pirandai* paste and put into *puda* process using 10 cow dung cakes. The process is repeated until the *parpam* is obtained.

This *chendooram* is given (32 mg) to 65 mg) with suitable adjuvants for *gunmam, soolai*, ascites and for the diseases of three humors.

Method -3

Copper sulphate (35 gm) is taken and a *kavasam* is made with honey and mustard paste (mustard ground with honey) and then covered with limewater pasted cloth and dried. It is then subjected to *puda* with three dung cakes to get the *chendooram.*

Dose: 65 mg.

Adjuvant : Ginger juice

Curable disease: Ulcers

PACHAI ENNEI

Copper powder (350 gm) is dissolved in the juice of thorn apple (5 litres). Coconut oil (2 litres) is added to this mixture. It is then heated over fire till it attains the consistency stage. After cooling, it is poured in bottles and stored in a clean place.

This *pachai ennei* can be applied topically for curing various ulcers carbuncles *(Raja pilavai)* and ear ulcers.

If the oil is applied externally ear ulcers are cured.

Thurisu is also added in the medicines for eye diseases such as *mudamayir kalimbu, Ilaneer kuzhambu* and *sangadhi maathirai.*

The copper obtained from *thurisu* is the best for preparing *Sembu parpam.*

Signs and symptoms of copper sulphate poisoning:

Since copper sulphate dissolves rapidly in water and absorbed in blood, it produces toxic effects quickly. Over dosage of copper sulphate produces unpleasant taste, vomiting, nausea, haematemesis, blue coloured vomitus, abdominal pain, dryness of throat, exsessive thirst, jaundice, paralysis and watering of eyes. Copper sulphate poisoning may cause death also.

Antidote for poisoning:

Lemon juice (42 ml) is given three times daily. Alternatively ginger juice, honey, and sugar can also be given together.

Stomach wash has to be done for copper sulphate poisoning, after which white of egg or milk should be given.

In allopathic medicine, treatment of copper poisoning is symptomatic and may involve the use of a chelating agent to remove any absorbed material.

13. NANDUKKAL

(FOSSIL STONE CRAB)

Fossil stone crab is present in nature in sea shores which has got diuretic property. It is used in the treatment of strangury, urinary calculus, chronic ascites, gonorrhoea, leucorrhoea and phlegm.

Purification:

Limestone and fuller's earth are mixed in water and allowed to settle for sometime. The clear solution is then taken out. Fossil stone crab is then placed in this solution and heated for three hours. The fossil stone crab is then taken out and washed in water to get purified.

NANDUKKAL PARPAM

The purified fossil stone crab is ground with radish juice,dried and then ground with the juice of Aerva lanata *(sirupeelai)* and dried to get the *parpam.*

Dosage: 65 mg to 260 mg.

Adjuvant: Juices or decoction of watery plants

Indications: This *parpam* is useful in the treatment of urinary retention and urinary calculus.

Other uses of *Nandukkal*:

1. Borax (8.4 g) is boiled in water (1.3 lit) and reduced to one eighth. The *nandukkal* (130 mg) is given with this decoction for urinary disorders such as strangury, calculus, anuria, dysuria and morbid growth of flesh.

2. If the *nandukkal* is rubbed with honey and given twice a day for three days, it cures 13 types of delirium.

3. If the fossil stone crab is rubbed with the decoction made of the roots of Boerhaavia diffusa *(mookarattai)*, Trianthema portula castrum *(charanai)* and the bark of Crataeva magna *(mavilingam)*and given for 3 days in the morning and evening, 80 types of *vatham*, including *kuthirai vatham, yanai vatham, ura vatham* etc. are cured.

4. When the fossil stone crab is taken in the decoction of Cuminum cyminum twice daily for three days, sixty four types of fevers will be controlled.

5. If the stone crab is rubbed with the paste of Merremia emarginata (*elichevi* leaf), diabetes caused due to *vatha, pitha, kapha* is cured. If it is given for 3 days, uterine disorders due to *vayu* will be cured.

6. When fossil stone crab 130 mg is taken along with Indigofera aspalathoides *thailam* for 12 days, eighteen types of leprosy will be cured.

7. If the stone crab(130 gm) is given with the juice of sword been for 3 days, it cures the morbid water and ascites.

8. If it is given with the juice of Ophiorrhiza mungos *(keeripoondu)*, it cures all kinds of toxicity.

9. If it is given with the leaf juice of Daemia extensa *(uthamathali)*, it cures the poisons of dog and fox.

10. When given in lemon juice for twelve days madness will be cured.

11. If the stone-crab (65 mg) is mixed with the leaf juice of Daemia extensa *(uthamathali)* and applied on the eyes, it cures mania *kumarakandavali. bramakandavali* (a kind of convulsion or fits).

12. If it is rubbed with the juice of Tabernaemontana divaricata *(nandhiyavattam)* and applied for 8 days as eye drops, it cures all the 96 types of eye diseases.

13. For night blindness, fossil crab stone is ground with drumstick seed *thailam* and applied into the eyes.

14. When ground in cow's milk and taken internally for twenty days, it is effective for sterility.

15. If the Stone crab is rubbed with nut meg powder and taken for 3 days, duration of sexual intercourse will be longer. If given with the juice of lemon, semen will discharge quickly.

16. The Stone crab added with *Nandhi mai* cures all types of venereal diseases.

13. *NIMILAI* (Bismuth)

Bismuth is considered of four types:

1. Gold bismuth
2. Silver bismuth
3. Copper bismuth
4. Lead bismuth

The above mentioned varieties of bismuth are formed as *kalimbu* paste when the metals like gold, silver, copper and lead are melted.

Purification:

Method - 1

Bismuth is kept in plantain stem water, burnt, washed and then taken out as purified.

Method - 2

Bismuth is kept soaked in cow's milk or breast milk and then taken out as purified.

Bismuth has astringent, tonic,sedative and alterative properties. It is given internally for *gunmam* (gastric disorder), diarrhoea and dysentry. It is applied externally for skin diseases and on the fissures of lips and nipples.

General properties:

It improves spermatogenisis and controls excess *pitha* and apoplexy.

Usage: When applied topically over the boils they will burst quickly; eczema may also be cured. It dissolves the necrosed materials in ulcers and helps in rapid healing of ulcers. It also cures all types of eye diseases.

It is ground with saffron and opium and applied topically for rheumatism.

NIMILAI PARPAM

Bismuth (35 gm) is soaked for 5 days in lemon juice and ground twice in the juice of Mollugo lotoides *(Ceruppadai)* and put into *puda* process. Again triturated with the juice of Cissus quadrangularis *(pirandai)* for two times and again put into *puda* process. Then it will turn into whitish.

Dosage : 325 mg to 650 mg.

NIMILAI CHENDOORAM

Method of Preparation:

Required things :

Bismuth	280 gm
Acalypha indica *(kuppaimeni Juice)*	
Wild dung cakes	r.q
Puda set up	

Bismuth is ground in a stone mortar using the juice of Acalypha indica for 120 hrs and made into pills at the dry stage. 50 pills are made and dried and then placed in a mud pan closed with another mud pan and sealed

with mud pasted cloth and put into pit *puda* process digging a pit of (1' x 3' size) filled up by wild dung cakes and a basket of husk and subjected to *puda*. After cooling the dung is taken out and ground with the juice of Acalypha indica and again put into *puda* process for two times.

This *chendooram* (244 mg) is given with butter twice a day for 48 days to cure haemorrhoids. It cures tuberculosis if it is given with *Aswagandhta rasayanam* (244 mg) twice a day for 24 days.

14. PAAL THUTHAM

(ZINC SULPHATE)

Other names: *Vellai thutham, Madal thutham, Nagauppu, Velleeya uppu.*

Zinc sulphate has got body strengthening, astringent and emetic properties.

Preparation:

Zinc sulphate powder (105 gm), *gandhaga dhiravaga* (175 gm) and water (1 litre) are taken. The *dhiravaga* and water are mixed first and then zinc powder is added to the solution. Now foam will come out. After the foam has vanished, the *dhiravaga* is filtered and then heated. A thin layer will be formed over the *dhiravaga*. When this preparation is cooled, the zinc sulphate salt will be formed ,which will be white in colour, but odourless.

Uses of zinc sulphate *(Paal thuththam)*:

1. Zinc sulphate (2.1gm) is dissolved in 250 ml water and douch washed for white discharge.

2. Zinc sulphate (650 mg) is dissolved in 28 ml of water and this solution can be used as drops, for curing irritation in the eye. The above sulphate 130 mg. is dissolved in 28 ml.of water for washing purpose for eye diseases.

3. Zinc sulphate is powdered and applied for curing piles.

4. For treatment of convulsion and for strengthening of body, 65 mg. of zinc sulphate is taken in ghee or butter.

5. To induce vomiting in case of poisoning, zinc sulphate can be given in doses of 650 mg to 2100 mg.

6. Zinc sulphate is also used as an ingredient in many medicines used for eye disorders.

Note : Zinc sulphate should not be used in eye diseases if there is corneal ulcer.Zinc sulphate (220mg) is approximately equivalent to 50 mg of elemental zinc. Man can tolerate 200mg of zinc sulphate per day. Zinc sulphate is used as supplement to correct zinc deficiency. In over dose, it has corrosive effects which may be explained by its conversion to zinc chloride.

PART-III

CEEVA VAGUPPU

(ANIMAL SECTION)

VII. UPARASAM

1. *Attai*

(HIRUDO MEDICINALIS, SPECKLED LEECH)

Speckled leech is present in the ponds where good smelling plants, such as lilly, Nymphaea alba are grown. It is also found hidden in the sand. Small sized leeches alone are useful for medicinal purposes.

The leech is classified into three types:

1. Good leech, 2. bad leech 3. ordinary leech.

1. Good leech:

Good leech may be classified into four groups:-

1. First group : Appears in white and golden colour.
2. Second group : Appears like red water lily.
3. Third group : Has the colour of coral and the shape of rice.
4. Fourth group : Appears in green or lemon colour.

2. Bad leech:

It appears in different colours such as black, blackish red and rainbow.

3. Ordinary leech:

It is golden black in colour. The ordinary leech is 5-10 cm in length with slight sharp ends. The outer skin will have six lines and there will be constriction across the body. It has three teeth and the face will appear green.

The leeches available in motionless water which contains crabs, frogs and water snakes will not be useful for medicinal purposes.

Properties and uses of leech:

A leech has got the property of absorbing blood upto 120 drops. It is

considered that the leech will absorb poisonous substances and purify the blood.

At a time more than 4-6 leeches should not be placed on the body

In cases of swelling due to injury, boils and abscesses, the leech is placed over the affected sites. The leech absorbs the blood and cures the disease conditions.

In uncontrolled vomiting the leech may be placed over the fonticulus gutturis.

It is placed over the forehead in case of intractable headache.

The leech is placed at the sites of chest disease and abdominal diseases which are induced by fever.

In case of headache due to blockage of blood in piles, the leech is placed around the anus region. Care should be taken to see that the leech does not enter into the anal canal.

For control of headache caused by menopause, the leech is placed over the thigh.

For control of stomach pain due to dysentery, the leech is placed around the anus region.

In case of liver enlargement, the leech is placed over the site of the liver.

The leech is placed over the middle of the back for the control of whooping cough in children.

For various kinds of chronic swelling of the joints, the leech may be placed over the joints and satisfactory results be obtained.

In case of pain in eyes and eye brows with watering, the leech is placed 1.25 cm away from the lateral angle of the eye.

The sites where leech should not be placed:

The leech should mot be placed at the sites where the pulse are felt, over the eyelids, penis, anus and breast. In children, it is better to place the leech at the sites where skin is just adjacent to the bone. It is also preferrable to place the leech during the morning in children because the excessive bleeding which may occur sometimes may not be noticed during night.

Leech biting should not be done during day time in certain body parts as mentioned below:

***Thithi* (moon day) :**			**Not permissiable body parts:**
I	Moon day -	*Piradhamai*	Great toe
II	Moon day -	*Thuthiyai*	Sole of the foot
III	Moon day -	*Thirithigai*	Knee joint
IV	Moon day -	*Chathurthi*	Thigh
V	Moon day -	*Panchami*	Generative organs
VI	Moon day -	*Shasti*	Umbilical region
VII	Moon day -	*Sapthami*	Breast
VIII	Moon day -	*Ashtami*	Hands
IX	Moon day-	*Navami*	Neck
X	Moon day -	*Dhasami*	Female generative organ
XI	Moon day -	*Ekathasi*	Tongue
XII	Moon day-	*Thuvathasi*	Fore head
XIII	Moon day -	*Thirayothasi*	Eye lids
XIV	Moon day -	*Chathurthasi*	Nape
XV	Full moon day-*Pooranam*		Head

Cleaning the leech:

Before allowing the leech to bite, it should be purified as follows: A broad-mouthed porcelain vessel is taken. The turmeric dissolved water is poured into the vessel and then the leech is placed inside the vessel; a mucous like sunstance will be released the leech and now the leech is ready for use.

Preparation of the patient:

The patient should be given a laxative, emetic or diaphoretic medicine on the previous day. Patient should have adequate sleep and food on the day of leech bite. The site of bites should be washed with brackish soil and red soil should be applied over the sites.

Methods to be followed for biting of leech:

1. An arrow mouthed vessel is taken and filled with water. The leech is placed inside. The vessel is tiled in such a way that the water will not come out. The leech will then adhere to the site of the bite.

2. If the leech does not adhere to the site of the bite by the above method, then the following method may be followed:

The site of the bite is scratched with the help of a clean pin so that the blood oozes from the site. The leech is then placed over the site, so tht it will firmly adhere to the bite site.

Removal of leech from the bite site:

Generally, the leech will fell down within half an hour to four hours after biting. If it has to be removed early, salt water or vinegar may be sprinkled at the site of bite.

Stoppage of excessive bleeding from the bite-site :

Parched alum powder or copper sulphate or turmeric poweder may be applied over the site of bite. Alternatively the site of bite may be pressed for a few minutes with fingers. Tincture benzoin may also be applied by cotton over the site of bleeding.

To increase the bleeding at the bite foementation may be applied with hot water husk or neem leaf.

The symptom of successful completion of blood letting through leech is that the body will be get rid of grief and distress after the removal of the toxic blood.The length of blood letting through leech is only of five finger length. If it exceeds, blood will flow profusely with itching and pain.

Treatment for ulcers caused by the leech bite:

1.Vinegar, gingelly seeds and Aloe vera are triturated and applied over the site of blood-letting.

2. Heat the Aloe vera leaf *(madal)* and cut it in to two parts and spray turmeric powder over it and tie over the site.

Re-using the leech:

The leech which fell down after the bite, is placed in husk and turmeric or sesame powder which sprinkled over its mouth; the leech will now bring out the sucked blood. It is then placed in clear water mixure of ant-hill sand. However leech once used for blood letting should be re-used only after a gap of seven days otherwise the leech will get toxicity and may cause, swelling,itching pain etc. at the bite site.

2. *AAMAI* (TORTOISE)

Tortoise is of two types; one that living in water and the other living in land. The water living tortoise only is used for medicinal purpose; which are available in plenty in the sea shores of Southern India.

The shell, flesh, fat, skin and egg of the tortoise are used as medicine.

Shell:

This is especially used in children as decoction, *parpam* or tablets.

AAMAIYOTTU KARUKKU KUDINEER

(Decoction of tortoise shell)

The burnt powder of tortoise shell, burnt white sweet flag, garlic, bishop's weed, leaves of Morinda tinctoria *(nuna)*, Daemia extensa, leaf of Lippia nodiflora, betal leaves stem and cloves are taken (4.2 gm each). and heated in an earthen vessel and a decoction (*kudineer)* is made. This *kudineer* is taken twice daily for three to five days to control indigestion (*maandham)* in children.

AAMAIYOTTU KARUKKU

Tortoise shell, pepper, juice of Daemia extensa *(uthamani)* and rice are dried, fried and bottled up for use.

Dosage: 520 mg.

Adjuvants and curable diseases:

If it is given with honey or mother's milk, it cures atrophy resulting from indigestion, dysentery and vomiting caused due to indigestion. This *karukku* can be given to infants and children.

Purification of tortoise shell:

Fuller's earth and limestone are taken in equal quantity and added 8 parts water mixed well and distilled. The tortoise shell is brocken into small pieces and burnt till oily substance is removed. Then it is washed with pure water to get purified.

AAMAIYOTTU PARPAM

Method - 1

Earthworm *(poonagam)* is ground with Euphorbia ligularia *(kombu kallipal)* and put into *puda* process using *Aamayottu kavasam*. The *parpam* thus obtained may be used as it is.The *puda* process may be repeated using Adathoda vasica juice.

Dosage : 65-130 mg.

Adjuvants : Cow's milk and breast milk.

Curable diseases: Indigestion and congenital heat in children.

Method - 2

Purified tortoise shell is concealed into the paste of Adathoda and sealed with mud pasted cloth and put into *puda* process *(Kanapudam)* and then triturated individually with Aloe's juice, Abutilon indicum *(thuthi)* leaf juice and made into pills, dried up and then put into *puda* process with *seelai* to obtain the *parpam*.This is useful for piles besides curing the above mentioned diseases.

MATHIRAI **(PILLS)**

Limestone is applied over the tortoise shell which is covered with a cloth and put to *puda*. It is then ground with limestone water, pills are made dried and again put to *puda* to get the *parpam*. This *parpam* is ground with camphor (quantity being 1/4 th of the *parpam)* and pills are made. This tablet will be effective in the treatment of indigestion *(uppumaandham)* in children, fever due to indigestion, dysentery and dyspepsia.

Flesh:

The flesh of tortoise when eaten after cooking will be effective for loss of appetite, phlegm, *pitha,* internal piles,venereal heat, bloody diarrhoea, etc. It also improves appetite and gives cosmetic appearance. The flesh prepared with the salt of Tinospora cordifolia *(ceendiluppu)* heals all kinds of wounds.

Fat:

The fat of tortoise is melted to form of ghee. This is taken internally to control scrofula, anaemia, dropsy, jaundice, diseases of lung and haemorrhoids.The fat has also got body strengthening and aphrodiasis properties.

Dosage: 4 ml. to 8 ml.

Skin:

The skin of a female tortoise is useful in the treatment of scabies and chronic ulcers.The smoke of the dried skin powder is useful in treating haemorrhoids.

Egg:

The fried egg of tortoise is given to children with whooping cough and epilepsy.

Bile:

It relieves pain, if used as nasal drops; relieves pain if applied at the poisonous bites site. Also it relieves throat pain if applied locally.

Blood:

The intake of tortoise blood cures lung diseases. Evidently it is now in practice at Tuticorin area (South India).

AAMAI LEGHIUM

The flesh of tortoise which was steam heated is mixed with 175 gm. of onion and garlic, clove, bark of cinnamon, anise seed, coriander seed, nutmeg, pulp of the nutmeg and turmeric (each 8.75 gm) with sufficient quantity of ghee is added and the *leghium* is prepared. Which is will be useful in the treatment of piles; it improves spermatogenesis. It is taken with *mirudar singi chendooram* (a kind of arsenic) or zinc *parpam.*

Dosage: Areca nut size taken twice a day.

Restriction: Avoid sexual activity.

3. *AALKAATTI PATCHI* (Lapwing bird)

The flesh of this bird is useful in the treatment of *vatha* associated with venereal and skin diseases.

Egg for smallpox:

The yolk of the bird's egg is poured in a vessel and par boiled superior variety of rice is sprinkled over it till the yolk is covered. The egg is fried with gentle heat. It is then taken out and kept stored in a clean container. During fever caused by smallpox, this preparation is taken and placed in left hand; if a hand fistfull of this is taken out through the right hand and eaten, it will reduce the severity of smallpox.

4. *INDIRA KOPAM*

(Mutilla Occidentalis)

It is an insect which is found grown during rainy season. It is found in gardens and red sand soils. The insect is collected, dried in the sun shade and sold in the market. The insect has got the property of producing hyperthermia and dryness. Hence, if this is given to the people with heat body, it may produce adverse effect.

Eesal-Lady's fly (Mutilla occidentalis) cures eczema *(karumegam)*, spermattorhoea and *kapha* diseases. It helps to attain *kaya siddhi*. It delays wrinkles, greying and oldage.

The text *Romarishi Vaidyam 500* indicates that this fly contains copper and also the methods of extracting copper from it. *Sattaimuni Nigandu* reveals the methods of preparation of *chendooram* from the extracted essence of copper from this fly.

Uses:

1. The ashes of the insect dissolved in a little water is given twice daily for whooping cough.

2. As it strengthens nerves and muscles, the ashes may be mixed with honey and given for paralytic attacks.

3. It is boiled with oil and used as local application for paralysis.

4. It is also useful for deep seated pain *(soolai noi)*, mixed with nutmeg.

5.This can be ground with honey wax to form paste which may *kalimbu*) be applied over the joint swellings.

6. The ashes mixed in breast milk when applied over the penis, improves masculinity.

7. If the ashes mixed in jaggery and taken internally, improves spermatogenesis.

5. FEATHERS

The feathers of birds such as eagle, vulture, parrot, peacock, crow, hen, dove, owl, quail, etc. may be used for medicinal purposes in the form of *parpam*.

Before preparing the *parpam*, the feathers should be purified by cutting them into small pieces and then subjected to *puda* process.

Preparation of *parpam*:

Purified powder of feather (35gm) is taken and the juice of Eclipta prostrata is added to it and mixed well. Pills are made and dried in sun shade, then subjected to *puda*. After cooling, the *parpam* is collected.

Dosage: Bengal gram size

Adjuvant: Butter

The following *parpas* may be taken with butter for the diseases noted against each:

***Parpams* of various feathers**	**Curable diseases**
1. Large eagle	Diseases due to excessive *pitha*
2. Small eagle	Diseases due to mild *pitha*
3. Wild eagle	Disease caused by excessive *kapha*
4. Country eagle	Mild *kapha* diseases

5.	Big common kite	Diseases due to excessive *vatha*
6.	Small kite	Diseases due to mild *vatha*
7.	Wild kite	Asthma
8.	Big parrot & Country kite	Leprosy
9.	Small parrot	Phobias
10.	Wild parrot	Tremor
11.	Country parrot	Impotent
12.	Big peacock	Wildering
13.	Small peacock	Sweating
14.	Wild peacock	Virulent diseases
15.	Country peacock	Blocking up of organs
16.	Big crow	Madness
17.	Small crow	Peptic ulcer
18.	Wild crow	Jaundice
19.	Country crow	Delirium
20.	Big hen	Diabetes
21.	Small hen	Carbuncle
22.	Wild hen	Cold, catarrh
23.	Country hen	Dropsy
24.	Big dove	Constipation
25.	Small dove	Dysentery
26.	Wild dove	Haemorrhoids
27.	Country dove	Haemorrhoids with pus
28.	Big quail	Indigestion
29.	Small quail	Burning sensation in the chest
30.	Wild quail	Ascites
31.	Country quail	*Vatha* diseases
32.	Big Rock horned owl	Billious fever
33.	Small Rock horned owl	*Vatha* fever
34.	Wild Rock horned owl	*Kapha* fever
35.	Country Rock horned owl	Dysentery
36.	Big grey partridge	Bleeding diarrhoea

37	Small grey partridge	Diarrhoea due to cold
38.	Wild grey partridge	Sinusitis with blood oozing
39	Country grey partridge	Watery sinusitis (*peenisam)*

SARVA VIDAARI KULIGAI

(Patchi rasa kuligai - Kaaruda kuligai)

Clerodendrum serratum *(chiru thaekku)* (35 gm), pepper (8.75 gm), sugarcandy (8.75 gm), Smilax china *(parangi pattai)* (8 75 gm), root bark of Plumbago zeylancia (8.75 gm), tortoise shell *parpam* (8.75gm) total weight of the above six ingredients are 78.75 gm. and feather's *parpam* (78.75 gm) totally 137.5 gm. is taken and ground with honey (315 gm per day) for three days; then they are ground with coconut toddy 315 gm per day and plamyra toddy (315 gm) on alternate days. Then they are ground with coconut and palmyra toddy separately for two days each. Again they are ground with Phoenix farinifera toddy (315 gm per day), arrack liquor of various ingredients (*sarakku saarayam* - 315 gm per day), arrack liquor of white babul bark *(pattai saarayam* - 315 gm) and arrack liquor of *(pazha saarayam* - 315 gm) each day separately. Then pills are then made and kept stored.

The pills are useful in the treatment of poisoning with various snake bites and mixed with juices in the following order and applied over the tongue or as an eye paste or applied over the head by lighly scratching the crown of the head. The gruels should be taken during medication as per the following order.

SNAKE VARIETIES:

	Juices	Gruels
1. *Naagam*	Ocimum sanctum *(thulasi)*	Pulse (small variety)
2. *Neer naagam*	Leucas aspera *(paei thumbai)*	Horse gram
3. *Karu naagam*	Ephorbia ligularia*(kalli)*	Husked millet
4. *Chennaagam*	Bacopa monnieri *(Brami)*	Husked Italian millet

The above said pills are also useful for the poisons as shown below:

Poisons of snakes	Adjuvants
i. *Viriyan* ii. *Panayan* iii. *Suruttai* iv. *Ratha kaththari* v. *Viriyan kaththari* vi. *Pulikaththari*	With the root juice of white calotropis

POISONS OF INSECTS :

i. Scorpion ii. Large scorpion *(nandutherukkal)* iii. Centipede *(cheyyan)*	With betel juice

Diet : *Raagi* and millet gruels.

6. *UDUMBU*

(VARANUS BENGALENSIS -VARANUS SPS MONITOR)

This has body strengthening and aphrodisiac properties while its meat has astringent and sweet taste which is oftern used in the form of *chooranam* to cure ear diseases, piles,venereal heat, head diseases,swellings, gonorrhoea, ulcers, leprosy, dysentery, hernia, diarrhoea, *vathapitha* and dryness of the skin. It improves body strength.

Preparation of *udumbu chooranam*:

An aged monitor is taken. Its head, nail and intestine are removed. *Chooranam* is made with asafoetida (8.75 gm), rock salt (17.5 gm), bangle salt (8.75 gm), garlic (35 gm), dried ginger (35 gm), Piper longum (17.5 gm), pepper (35 gm), *savuttuppu* (salt extracted from fuller's earth) (35

gm) and bishop's weed (70 gm). The abdomen of the monitor is filled with the *chooranam*. The monitor is then tied with a rope. The juice of thyme leaved gratiola *(brami)*(8 litres) is poured in a mud pot The monitor is then placed in the pot and boiled. After the water is evaporated, the monitor is taken out, pounded and then dried.

It is again pounded and filtered in a cloth and kept stored.

The *chooranam* thus prepared is useful in the treatment of various types of diarrhoea and dysentery, *moolavayu* (a windy diseases) and *soothaka vayu*. The preparation is taken twice daily for 21 days. with a dose of two fingerful.

Adjuvant: Honey

Regimen : *Icha pathiyam*

UDUMBU LEGHIUM

Method of preparation:

1. A female monitor is taken and it's neck is cut and saffron and cow's bezoar each 10.5 gm. are inserted into it and then tied with a rope and hanged in inverse position.

2. A female shelter sparrow bird is taken and opium 6.3 gm. is inserted into it's mouth and tied with a rope and hanged in inverse position.

3. A female crocodile is taken and it's mouth is washed for 7 times. Then Indian hemp size of a bunduc nut is kept in 12.6 gm. of jaggery closed, and inserted into it's mouth and tied with a rope and hanged in inverse position.

Remove the skin,nails,hair, intestine and bile of the above three and cut into small pieces, dried and pound well. Then coriander seed, black cumin, anise seed, rose, nutmeg *(chadikkai)*, arillus of the nutmeg (*chadi pathri)* and datura bud flower each 8.75 gm. are added and again pounded well to become as powder. The above powder (350gm) is mixed with 175 gm.of sugar and 70 gm. of ghee and made into *leghium*, which improves spermatogenesis.

Dose: One tea spoon twice a day for 5 to 7 days.

Regimen: *Icha pathiyam.*

UDUMBU NEI

It is considered that *udumbu nei* is useful in controlling excessive haemorrhage.

7. *ERIVANDU*

(MYLABRIS SPS)

These insects are collected during morning and evening. They are subjected to steam heat of vinegar water. They are then dried under the sunshade and kept stored in air tight bottles.

Mylabris sps are commonly used in the form of *kalimbu*. They are too toxic for internal use.

Preparation of *kalimbu* (paste):

The insects, white wax, shorea robusta and fat of goat are taken in equal quantities. The later three ingredients are melted. The insects are then powdered and mixed with the three ingredients. The *kalimbu* so prepared is applied over the sites of lesion and boils. The boils are cut with scissors and coconut oil is applied over the wound. The tender leaves of the plantain is then applied over the wounds; the ulcers will heal rapidly.

For chest disease caused by cough, the *kalimbu* is applied over the chest. For giddiness and control of madness, it is applied over the neck. For deaf patients, the *kalimbu* is applied back side of the affected ear and for splenomegaly, chronic joint swellings, hip diseases and contraction of muscles, it is applied on the affected area.

In western countries, the extract of the insects is used as an ingredient in the preparation of hair oils for hair growth.

8. BONES

The bones of animals are used in Siddha medicine after purification.

Purification of bones:

For every 35 gm of powdered bone, 105 gm sour cow's buttermilk is added and kept in sunlight from morning to evening. This procedure is repeated and put to *sooriya puda* for five days. Then it is kept in sunlight

for two days without adding buttermilk. After it is dried well, the bone powders are washed in water, dried and kept stored for use.

ELUMBU PARPAM

Purified bone (35 gm) is taken and is ground with the juice of Indian aloes as shown in the following table. *Pills* are then made and put to *puda* process to get the *parpam*.

Name of the juices (1)	Quantity required in grams (2)	No of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
Juice of Indian aloes	70	4	3	1	32
”	”	”	”	”	28
”	”	”	”	”	24
”	”	”	”	”	20

The preferred dose of the *parpam* is the size of a bengal gram.

Bone parpam of various animals	**Curable diseases**
1. Male donkey	Venereal disease
2. Female donkey	Delirium
3. Male horse	Psychiatric illness
4. Female horse	Heat disorders
5. Buffalo(male)	*Pitha* disease
6. Buffalo(female)	Distress
7. Ox	Vomiting
8. Cow	Hiccough
9. Male bear	*Kapha* disease
10. Female bear	*Pitha* disease

11.Male tiger	*Vatha* disease
12.Female tiger	Headache
13.Male deer	Diseases assocaited with giddiness
14.Female deer	Fatigue
15.Female goat	Heart attack
16.Male goat	Common diseases

Adjuvant: Lemon juice:

KOTTAN ELUMBU PARPAM

(Rock horned owl) :

The purified bone of the *kottan* (35 gm) is taken and ground with the juice of tuber of Asp.iragus racemosus. *Pills* are made, dried and put to *puda* as shown in the following table.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1.Juice of Asparagus racemosus	3	4	3	1	32
2.	3	4	3	1	28
3.	3	3	2	1	24
4.	3	3	2	1	20

The preferred dose of the *parpam* is equivalent to the size of a bengal gram.

Male and female *kottan parpam* should be prepared separately. The *parpam* of female one is useful in the treatment of certain types of boils; in men; these boils will be preceded by fever and headache; the boils will appear like a broken egg. For the boils occuring in females, male *kottan parpam* is given.

For male and female patients:

Diseases	**Adjuvants**
Vatha abscesses	Male : wild snake gourd with fruit arrack

(in thigh)	: Female :Wild snake gourd with country toddy
Pitha abscesses	Male : wild ridged gourd juice with arrack *(Pattai charayam)*
	Female : wild ridged gourd with palm toddy
Kapha abscesses (with fever and head ache)	Male : Wild cane juice with rice alcohol mixed with female *kottan prpam* For female: Wild cane juice with date palm toddy along with male kottan parpam.

PERANDA PARPAM

Skull and alum are placed in a mortar and triturated with lemon juice, made into pills,dried and put to *puda*. It is then powdered and kept stored. It is useful in the treatment of delirium, *pitha* etc.

Dose: 4.2gm twice daily for twelve days.

Adjuvants: Donkey's milk 2 parts, ginger juice 1 part with equal quantity of sugar.

The *parpam* is triturated with these three mixtures and given internally.

Nasyam : with the juice of Leucas aspera *(thumbai)*

For bathing : wild ridged gourd, Anisomeles malabarica *(Peimiratti)*, wild snake gourd , wild bitter apple, wild fig, wild thumbe and lemon are applied on the head and bath is taken with 100 buckets of water.

Diet : Raw rice with gram without salt.

Diseases cured : Madness and *pitham*

THAVALA NIRA PARPAM

This *parpam* is made by pulverising the pieces of skull bones of man, dog, ox in equal quantity and ground using donkey's milk till it comes as a fine paste and made into small cakes and dried. Then it is put into *Kukkuda puda* process and the *parpam* is obtained.

Dosage : 5.1 gm - 12 times.

Adjuvant : The *parpam* is given with 2 parts of donkey's milk , one part of ginger juice and one part of sugar.

Diseases cured : *Pitha*, madness and mania

9. *ONAN* (CALOTIS)

One or two drops of calotis blood is added to a *paaladai(conch like small cup)* of donkey's milk. This preparation is useful in the treatment of blackish syphilis.

The ghee of calotis has got anti-convulsant property and hence it is an essential ingredient of *Sodhirishi thailam* used for various types of epilepsy.

ONAN SUDAR THAILAM:

The head of calotis is cut and mercury, bichloride of mercury and sulphur (35 gm each) are placed into it. It is covered with a cloth soaked in neem oil; the *thailam* will be formed which is useful in the treatment of poliomyelitis for which it is applied topically.

10. *KASTHURI*

(MOSCHUS MOSCHIFERUS MUSK)

This substance is obtained from the male deer. This is produced in male deer during winter season in order to attract the female deer. This is produced from the region between the penis of the male deer and the upper skin. The musk is covered by a thin membrane. About 26-52.5 gm of musk can be obtained from one deer. It is highly fragrant and the fragrance can spread to a wider area. After the winter season is over, tha male deer ruptures the membrane through its hoof and the musk leaks out. the musk is very difficult to obtain. Mny plant materials have got the fragrance similar to that of musk; the waste products of some living organisms also posses the fragrance similar to that of musk. From these, artificl musk is prepared and used as perfumes.

Test for musk:

1. If a small quantity of the musk placed in water. remains

undissloved, it may be inferred that the musk is a pure one and if it dissolves it is impure.

2. When a small quantity of the musk placed in fire, melts with bubble it is pure. It will not melt but will burn and become hard like a steel, if impure.

3. If burned in earth if it will not lose, it's fragrance with soft and oily base if it is pure musk.

4. If a thread placed on asafoetida has the smell of asafoetida after placing in musk, it is not a pure one.

Colour of the musk:

The musk normally blackish brown in colour.

There are five kinds in musk viz :

Karikai	Red
Thilakai	Sesamum seed
Kulundai	Kollu
Pindakai	Solid
Nayakai	Small size

Properties and uses of musk:

The musk is bitter in taste and produces hyperthermia. It has body strengthening and anti convulsion properties. It stimulates the heart and nervous system and also improves blood circulation.

The musk is also useful in delirium, *kaphavatha.* asthma and in epilepsy.

Dosage: 32-260mg.

Adjuvants: The musk is also given for removal of fatigue caused by chronic fever. This is given along with *poorana chandrodhayam* (32 - 260mg) in honey.

If the musk is mixed with *Thambira chendooram* (16 mg -32 mg) and given in Daemia extensa *(uthamani)* asthma will be cured, as evidenced by *Maruthu Bharatham*.

KASTHURI KARUPPU (MUSK -BLACK) :

This is used to remove the blood waste from the uterus after delivery. It is prepared as follows:

Borneo camphor, gallstone, mercury, calomel, red sulphide of mercury, cinnabar, sulphur, yellow arsenic trisulphide, bisulphuret of arsenic, bishop's weed, saffron and Piper longum (21 gm each) are taken and powdered individually and mixed together. Musk (4.2 gm) is also taken, powdered and then mixed with the above mixture and ground well.

Dosage: 65-195mg.

KASTHURI MAATHTHIRAI :

The essential ingredients of this preparation: Musk, dried ginger, pepper, Piper longum and mustard are ground with the juices of Ocimum sanctum, Mimusops elangi flower *(magizham)*, tuber of Asparagus racemosus *(thanneer vittan kizhangu)* and Agati grandiflora leaf. Then pills are made and dried in sunlight. The pills are taken with water is useful to control *vatha* diseases like - *vatha* fever, shivering with *vatha* fever and contraction due to rheumatism. If it is taken with honey it cures *pitha* disease like-*pitha* fever and *pithavayu.* If taken with the flower juice of cassia, it cures *kapha* fever, delirium due to *kapha*, headache and pricking pain in head. If it is taken with lemon juice, it cures ano-rectal diseases and ulcer due to venereal diseases.

Other preparations of musk:

1. ***KASTHURI THAILAM (Theran thailavarkkam)*:**

This is effective in the treatment of epilepsy in children,asthma, unconscious, *kaphavatham*, stomach diseases, anal obstruction, tumour, *vatham* and mental disorders.

Dose: 4.38- 17.5gm.

2. ***KASTHURI KULIGA***:

Musk- 5.25 gm., saffron-10.50 gm.and gallstone-15.75 gm. are ground with mother's milk for three hours and made in to pills (130 mg),dried in shadow and stored in air tight bottles. This is effective if taken along with mother's milk for delirium, *pitha* fever, headache, vomiting and sinusitis. It is also used with other perfumery items.

The musk is also used as an ingredient for giving fragrant to various *thailams* such as *chukku thailam, chiru santhanadhi thailam.*

It is also added in the aphrodisiac medicines and ingreater medicines like *maharaja mirugangam, poorana chandrodhayam.*

The western physicians use the musk (195 mg) along with camphor as a heart stimulant.

It can be used as *netri pottu* small dot paste on the centre of forehead for facial attraction.

Cough pills are prepared as follows: Saffron, nutmeg, arillus of the nutmeg, cinnamon -1 part each and 4 parts of musk are taken, powdered and triturated in a mortar for four days by adding the juice of Ocimum sanctum. Pills are made and one to two pills are given per day.

11. *KAANDAA MIRUGA KOMBU*

(RHINOCEROS UNICORNIS)

Rhinoceros unicornis horn compounded with water is given internally for the treatment of madness, *pitha*, thirst, dryness, venereal disease, pulmonary disease, burning sensation, fatigue and heat caused by indigestion of poison, etc.

The *parpam* made from the horn is useful for asthma.

If the skin of the animal compounded with water is given internally it control madness.

12. *KILINJAL*

(COMMON OYSTER SHELL)

Oyster shell is found in the coasts of Atlantic and Indian oceans.

This is of two types: Small oyster shell and big oyster shell. The shell chiefly contains calcium carbonate 85 to 95%, and phosphate, sulphate of calcium and magnesium and ferrous oxide in small quantities.

Purification:

About 1400 gm.of the oyster shell is taken. Whole plant juice of

Averrhoa carambola, vinegar and buttermilk (2 litres each) are added to it. They are placed in a vessel , covered with a cloth and kept in sunlight for seven days.

Then the whole plant juice of Nymphaea adorata, buttermilk and vinegar (2 litres each) are placed in a vessel and the oyster shell is added to them. The mouth of the vessel is covered with a cloth and again kept in sunlight for seven days.

Then the oyster is placed in an another vessel containing the whole plant juice of Solanum nigrum, buttermilk and vinegar (2litres each). The mouth of the vessel is again covered with a cloth and kept in sunlight for seven days. The oyster shell is then taken out as purified.

SMALL KILINJAL PARPAM:

Purified small oyster shell (35 gm) is taken and ground with various juices and put to *puda* as shown in the following table.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1. Whole plant Juice of (banyan variety) *kuruvi aal*	4	11	10	1	30
2.Leaf juice of prosopis spicigera *(vanni)*	4	11	10	1	30

The preferred dose is 1/4th part of a pepper.

The *parpam* should be taken in the following lands: Fertile land *(Marudham)*, hilly place *(Kurinji)* and woody land *(Mullai)*.

The *parpam* should be taken during the months of *Chiththirai* (14 th April to 13th May), *Vaikasi* (14th May to 13th June) and in *Aani* (14th June to 13th July).

The small *kilinjal parpam* is useful in the treatment of the following conditions:

For mild effect of diabetes, it is given with the juice of Manilkara hexandra (small variety). In severe conditons, it is given with the juice of Manilkara hexandra (big variety).

For *vatha*, it is given with the juice of Ocimum sanctum (small variety). In excessive *vatha*, it is given with the juice of Ocimum sanctum (big variety).

For *pitha*, it is given with the juice of small size branch stemp of mango tree. In excessive *pitha* it is given with the juice of big size branch stemp of mango tree (Mangifera indica)

For mild effect of cramps, it is given with the cotton juice (small variety). In severe cases it is given with the cotton juice (big variety).

For mild effect of body inflammation, it is given with the juice of small variety of Amaranthus tricolor *(chiru keerai)*. In severe conditions, it is given with the big variety of Amaranthus tricolor.

For mild effect of abdominal distension, it is given in cow's milk. For severe distention of abdomen, it is given in goat's milk.

For mild effect of cough, it is given in cow's butter. For severe cough, it is given in goat's butter.

For mild effect of delirium, it is given with cold water. In severe cases it is given with hot water.

For mild effect of mania, it is given with unhusked rice flour. In severe cases it is given with millet flour.

For mild fever, it is given in coconut toddy. If it is severe , it is given in palmyra toddy.

For vomiting , it is given in honey. If severe, it is given in mosquito bee honey.

For mild effect of pulmonary disease, it is given in wine. In severe condition, it is given in arrack.

KILINJAL MEZHUGU

Small oysters are heated in fire and kept soaked in the juice of Emblica officinalis . This procedure is repeated three to five times. Then the oyster is ground in a mortar with castor oil, till it attains the wax consistency. If it is applied topically, it cures fissures heel.

BIG *KILINJAL PARPAM*

Purified form of big oyster shell (35 gm) is ground with various juices and put to *puda* as shown in the following table.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1.Root bark Juice of Crataeva religiosa	4	8	7	1	40
2.Flower juice of Jasminum auriculatum	3	6	5	1	30
3.Whole plant juice of white calotropis gigantea	2	4	3	1	20
4.Juice of sour mango	1	2	1	1	10

It is preferable to take the *parpam* while residing in hilly places. The *parpam* should not be taken while residing in woody lands.

Dose: The preferred dose is 1/8 the size of Abrus precatorius *(kundri)*.

The *parpam* can be taken during all the months except *Aani*(14th June to 13th July) *Aavani* (14th August to 13th September), *Purattasi* (14th September to13th October) and *Markazhi* (14th December to 13th January).

Adjuvants:	**Curable diseases:**
Cuminum cyminum	piles caused by *vatha*
Vernonia anthelmintica	piles caused by *pitha*
Nigella sativa	piles caused by *kapha*
Dried ginger	absolute suppression of fluid caused by *vatha*
Ginger	absolute suppression of fluid caused by *pitha*
Alphinia galanga	absolute suppression of fluid caused by *kapha*
Palmyra toddy	morbid fluid secreted due to *vatha*
Coconut toddy	morbid fluid secreted due to *pitha*
Date palm	morbid fluid secreted due to *kapha*
Cow's butter	giddiness caused by *vatha* affections
Baffalo's butter	giddiness caused by pitha affections
Goat's butter	giddiness caused by *kapha* affections
Cow's curd	*vatha* fever
Baffalo's curd	*pitha* fever
Goat's curd	*kapha* fever
Cow's milk	delirium caused by *vatha*
Baffalo's milk	delirium caused by *pitha*
Goat's milk	delirium caused by *kapha*
Cow's butter milk	vatha diseases
Baffalo's butter milk	*kapha* diseases
Goats's butter milk	*kapha* diseases
Cow's ghee	vomiting caused by *vatha*
Baffalo's ghee	vomiting caused by *pitha*
Goat's ghee	vomiting caused by *kapha*

The common oyster shell (big) *parpam* can also be given with the following adjuvants according to the disease conditions.

Hot water, dried ginger juice, juice of holy basil, juice of sweet basil, juice of Ocimum album *(kanjankorai)*, juice of pomegranate, lemon juice,

Citrus medica juice, Tinospora cordifolia juice *(seendil)*, juice of Coccinia grandis *(kovai)*, juice of Centella asiatica *(vallarai)*, sour, sweet mango juices etc.,

13. *KULAMBU* (*H*OOFS)

The Hoofs of various animals such as wild buffalo, country buffalo, wild cow, country cow, wild bear, pig, wild tiger, wild cat, wild horse, horse, wild deer, deer, wild goat, white goat and red sheep are used in the form of *parpam*. They should be purified before making into *parpam*.

Purification: The sawed hoof powder (35 gm) is mixed in 175 gm of tender coconut water and kept in sunlight from morning to evening for five days. Each day fresh tender coconut water should be added. Then the powder is kept in sunlight for two days without adding coconut water. After drying, it is washed and taken out as purified hoof powder.

KULAMBU PARPAM

The purified hoof powder (35gm) is ground with various juices as shown in the follwing table and put to *puda*.

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1. Leaves juice of prosopis spicigera *(vanni)*					
	6	6	5	1	40
"	5	5	4	1	35
"	4	4	3	1	30
"	3	3	2	1	25

Dosage: Size of a bengal gram.

If the *parpam* made of from the hoofs of buffalo, cow,bear, tiger, horse, deer and goat is given with honey called *Kanda avidatham*, it cures the diseases caused by excess *Vatha, Pitha* and *Kapha* and other diseases like three kinds of delirium,fits,eye diseases and tuberculosis.

If given in the same dosage with the same adjuvants the *kulampu parpam* of the following animals cure the diseases mentioned against:

Wild fox *kulambu parpam*	Deep seated pain *(Soolai)*
Country fox *kulambu parpam*	Splenomegaly *(Vallai)*
Wild dog *(Sennaai)kulambu parpam*	Piles
Dog *kulambu parpam*	Fistula
Wild hare *kulambu parpam*	Paralysis
Country hare *kulambu parpam*	Hemiplegia

14. *KULAVI KOONDU*

(WASP NEST)

Wasp nest, wood apple seed, parched paddy and Piper longum are fried by adding honey and a decoction *(kudineer)* is prepared from this mixture.

This is used to control hiccup.

15. *KOMBARAKKU*

(COCCUS LACCA)

Certain small insects (Carteria lacca) produce the lac in the branches of trees. The lac is collected and used for making jewels and to colour the silk clothes.

The lac has got bitter, body strengthening and hyperthermic properties.

The lac is useful in the treatment of leprosy, tuberculosis, traumatic ulcers, body pain, phlegm, excessive menstruation and dysentery. It gives strength to the chest.

The lac powder given in honey at doses of 390 mg -1300 mg controls haematemesis.

390 mg.of lac mixed with resin of cotton tree(390 mg). is given to control dysentery with blood.

The lac (8 parts), resin of cotton tree (4parts), gall nut (2parts) and nut meg (1part) are taken and one litre of water is added to them. The mixtrue is then boiled till it reduces to 125 ml, which is divided into two portions and used to syringe in the morning and evening for diarrhoea.dysentery caused with *pitha* fever.

Kombarakku chooranam prepared from the lac is applied over the traumatic ulcers to stop bleeding. The ulcers also will heal rapidly.

ARAKKU THAILAM (LAC OIL)

Lac (1,120gm) is allowed to hang in a mudpot. River water is poured into the pot and burnt with Pavonia zeylanica wood *(chitramutti)*. Decoction *(Kudineer)* is prepared from this.

Cow's milk (8 litres), gingelly oil (8 litres), vinegar and curd (1,120 gm each) are added to the decoction. Sandal, musk, Curcuma longa *(manjal)*, Costus speciosus *(kostam)*, Cinnamomum verum *(lavangappattai)*, Cinnamomum tamala *(lavanga patri)*, Garcinia xanthochymus *(pachilai*), Glycyrrhiza glabra *(athimaduram)*, Nardostachys grandiflora *(sadamanjil)*, Curcuma zedoaria *(poolankizhangu)*, Picrorhiza kurroa*(katugurogani)*, Elettaria cardamomum, Anethum graveolens *(sadakuppai)*, *Kiliyuralpattai* (a medicinal bark), Sapindus laurifolia *(Poosandirapattai)*, Cuminum cyminum, black Cuminum cyminum, Alocasia indica *(merugan kizhangu)* and Dioscorea purpurea (*chevvalli kodi*) (each 35 gm.) are taken and powdered individually and ground with cow's milk.

Then all the ingredients are mixed together and heated gently over a hearth for four days. On fifth day early morning, it is filtered and put to *nel puda* for one month to get the *thailam*.

The *thailam* is useful in the treatment of throbbing pain of the body, *chandra vartham, surya vartham* (a head ache increased during the nights and subsides with the setting of the moon), pricking pain in head *(kapala soolai)*, bad odour from sweating, swelling of teeth root of the tooth, fever associated with chills and rigor,bronchitis, impurity of blood and five types of *paandu* .

The lac is also an essential ingredient in *Sandhanadhi thailam, Asvagandhi thailam, Palalatcha thailam* etc.

16. HORNS OF ANIMALS

The horns of various animals such as stag, buffalo, bull, ram, rhinoceros unicornis, wild cow, wild goat etc are used in the form of *parpam.* They should be purified before making into *parpam*. The horns of animals of both sexes should be purified separately.

Purification of Horns:

For every 35 gm of scrapped horn powder, 105gm of juice of agati grandiflora is added and kept in sunlight from morning to evening for four days. Fresh juice of Agati grandiflora should be added daily and put to *Soorya puda*. From sixth day onwards, it is dried in sunlight without adding the juice and dried well. Then, it is washed with water and dried again.

The horns which were purified separately are ground, pills are made, dried and put to *puda* as shown in the following table:

Name of the juices (1)	*Quantity* required in grams (2)	*No. of days* required for grinding (3)	*No. of days* required for drying *the cakes* (4)	*No of days* required for drying *kavasam* (5)	*No.of* dung cakes required *for puda* (6)
Juice of Alpinia galanga fresh (not dried)					
	4	*6*	*5*	*1*	*40*
"	*4*	*5*	*4*	*1*	*35*
"	*3*	*4*	*3*	*1*	*30*
"	*3*	*3*	*2*	*1*	*30*
"	*2*	*2*	*1*	*1*	*25*
"	*4*	*2*	*1*	*1*	*20*

Dosage : Weight of one Bengal gram is good. Three fourth weight is mediocre. Half of the weight and one fourth weight are of no use.

KOMBU PARPAM	**CURABLE D ISEASES:**
Stag (male)	*Vatha* diseases
Stag (female)	*Pitha* diseases
Bull	*Kapha* diseases

Buffalo	*Vatha* cough
Ox	Bilious cough
Cow	*Kapha* cough
Goat(male)	Throbbing pain due to *vatha*
Goat (female)	Throbbing pain due to *pitha*
Rhinoceros unicornis(male)	Throbbing pain due to *kapha*
Rhinoceros unicornis(female)	*Vatha* pain
Kadamba deer(male)	*Pitha* pain
Kadamba deer (female)	*Kapha* pain
Spotted deer(male)	*Vatha* fever
Spotted deer(female)	*Pitha* fever
Wild ox	*Kapha* fever
Wild cow	*Vatha* sneezing
Wild goat (male)	*Pitha* sneezing
Wild goat (female)	*Kapha* sneezing
Wild buffalo(male)	*Vatha* stone block
Wild buffalo (female)	*Pitha* stone block
Mountain goat (male)	*Kapha* stone block
Mountain goat (female)	*Vatha* cramp
Mountain ox	*Pitha* cramp
Mountain cow	*Kapha* cramp
Mountain buffalo (male)	*Vatha* delirium
Mountain buffalo(female)	Pitha delirium
Mountain kadamba deer (male)	*Kapha* delirium
Mountain kadamba deer(female)	*Vatha* insanity
Wild Rhinoceros unicornis(male)	*Pitha* insanity
Wild Rhinoceros unicornis (female)	*Kapha* insanity

Dosage : Weight of a bengal gram

Adjuvant : Breast milk

GENERAL RULE:

MADHANA KAMESWARAM

(KOMBU PARPAM)

The essential ingredients of this preparation are various horn *parpams* (30 Nos - each 1 gm - 30gm.) as mentioned above, seeds and resins of country fig, Moringa oleifera, Mangifera indica, and almond, (8 No's each 7.5gm - 60 gm) are mixed with nutmeg (26gm). The above three ingredients are ground with 175 gm of country fig (*aththi)* for five days. On sixth day, cow's ghee (105 gm), sugar candy powder (35 gm) and roasted wheat flour (17.5gm) are mixed with all the ingredients and the *leghium* is made.

Dietary regimen :

Oil bath should be taken two days before taking this medicine with strong purgatives to clean the stomach. Tamarind, butter milk, curd, fruits and sexual activity are to be avoided, during medication.

The above should be taken in a dose of 2 gm. to 3 gm, which improves the vitality of the body and tones up the nervous system besides curing gonorrhoea, neuralgia etc. It is a best nervine tonic.

17. *KOROSANAM*

(OX BILE)

The biles of animals such as buffalo, deer, wild bear, peacock. goat, cow and fish are used for medicinal purposes. Of these, cow's bile is mostly used. Since the animal's biles are costly, artificial biles are sold in markets. If a small needle is heated and inserted into the bile and taken out the needle will attain yellow colour, and yellow colour smoke will come out if it is a pure one; if the needle attains black colour, the bile is artificial.

The bile has got bitter, laxative, mucolytic and hypothermic properties.

Dosage: For children, the dose is the size of two mustards. Adult dose ranges from 260-650 mg.

Uses of Ox bile:

1. The ox bile is given with breast milk or leaf juice of Anisochilus carnosus *(karpooravalli)* for the treatment of reddish syphilis*(cenkiranthi)*.

2. For improvement of vision, it is dissolved in breast milk and applied on the eyes. It is given with betel leaf juice for dropsy.

3. It is given in cow's milk, twice a day for smallpox. To control the severity of smallpox, it is given mixed with a small quantity of skin burnt ash.

4. Pills made by grinding the leaves of Nyctanthes arbortristis *(pavalakkaal malligai)*, pepper and ox bile are given for the treatment of intermittent fever.

5. Ox bile, saffron, borneo camphor, camphor, cardamom, clove, Costus speciosus (costum) and nutmeg and Anacyclus pyrethrum *(akkaraakaaram)*.(each 16 gm.) are taken, ground with sandal powder decoction for 12 hours. Then it is ground with Michelia champaca decoction for six hours and then with Crocus sativus *(kunkuma poo)* for six hours. Pills are made in the size of *kundri* and given in breast milk, which controls phlegmatic disease, phlegmatic fever, giddiness and delirium. If it is taken with egg shell oil *(andavottu thailam)*, it cures convulsion.

6. The ox bile is mixed with picrorhiza kurroa *(katukurogini)* and Croton tiglium *(naervalam)* (each 4.2 gm.) and ground by adding breast milk for 12 hours. Pills are made and dried in shadow.

Adjuvants:	**Curable diseases:**
Juice of Zingiber officinale	*Vatha* fever
Breast milk	*Pitha* fever
Adathoda vasica	*Kapha* fever
Solanum xanthocarpum *(kandangkathari)*	"
Solanum trilobatum *(thuthuvalai)*	"

Solanum xanthocarpum *(kandankathari)*, Solanum trilobatum *(thuthuvalai)*. leaves are taken in equal quantity and made as *pittaviyal* (heating the medicine by steam)

Ichapathiyam should be observed during medication.

As the *korosanai* pill has got purgative potency, one tablet should be taken only in the early morning.

7. The oil prepared from ox bile is also effective in the treatment of thrush.

8. The bile of wild goat (Goat bazoar) when given in milk at a dose of 130mg, counteracts with poisons and strengthens the brain and heart. It also improves spermatogenesis, gives strength to the body and controls heart diseases.

18. *KOZHI*

(GALLUS DOMESTICUS -

DOMESTIC COCK AND HEN)

The domestic cock and hen has got rubefacients and aphrodisiacs. When the meat of hen is eaten, it speed up the actions of medicines and controls nervous diseases, bronchitis, throbbing pain of the body, indigestion and piles. It also reduces body weight, increases semen, fatty ulcers and *pitha.*

Uses of Hen and Cock:

1. If the crest of the cock is cut and the oozing blood is poured into the eyes affected by haemorrhagia the bleeding will stop.

2. If the excreta of hen is taken in betel leaf it counteracts with the poison of scorpion bite.

A piece of cloth stained in Calatropis milky juice and bind over a peacock's feather and pasted with hen's droppings. If it is burnt and the smoke is applied over the scorpion bite site,the stinging pain will be relieved.

3. The *Kuckoodadhi chooranam* which is prepared mainly from hen, is useful in the treatment of various diseases of abdomen such as eight types of ulcers *(ashta gunmam)*, 18 types of diarrhoea and dysentery. The *chooranam* can also be given to patients suffering from indigestion.

KOZHI KAL

This is obtained from the liver and throat of hen. It is ground with water and taken twice daily as an appetite stimulator.

Chicken soup is taken to break the regimen while taking the mercurial drugs. Some take cooked chicken with food.

Avoid lemon while consuming chicken as it spoils the properties of chicken meat.

The yellow membrane found inside the *kozhikkal* sac is taken out, dried and fried and then ground with Cuminum cyminum, sugarcandy and ghee till it attains the consitstency stage as leghium. When it is taken at a dose equivalent to the size of Solanum pubescens *(chundaikai)* it controls dysentery caused by indigestion.

HEN'S EGG

It is also called as *citrandam*, which has got laxative, rubefacients and nutrient properties. It is a highly nutritious food.

The hen's egg controls *vathadhosa*, ulcers and *kapha* diseases but it increases *vatha paithiyam*,semen and eczema. The hen's egg shell is rich in calcium. It is composed of carbonate of lime; phosphate of lime and traces of sulphur, iron, some organic matter about 1.5 % , and salts as chlorides, iodides sulphates and phosphates of pottasium, calcium and magnesium.

MUTTAI ODU PARPAM

The egg shell is ground with the juice of Hygrophila auriculata *(neermulli)*, dried and put to *puda* process to get the *parpam.*

This *parpam* when given in butter, controls dhosa roga caused by the fever of bony origin.

The white of egg is dissolved in water and used as an antidote for various poisoning such as copper sulphate, perchloride of mercury and zinc sulphate

The white of egg removes impurities of foodstuff and controls burning sensation of the body. It is also an ingredient of certain eye medicines. The yellow yolk of egg improves body strength in patients.

ANDA THAILAM

The yellow yolk of a boiled egg is placed in an iron pot and heated on a fire till the yellow yolk is burnt. The *thailam* will be formed which is filtered and kept stored in clean containers.

This *thailam* when applied over the tongue, controls paralysis of tongue.

When saffron and ox bile are mixed with this thailam and given in drops to children, it controls convulsions, dropsy and indigestion.

It is also used in the preparation of *vaana mezhugu,* a medicine used for paralysis and gangrene.

The egg may be taken individually, or with milk or half boiled or fully boiled egg or as omelette (with pepper and salt), which gives much strength to the body.

CHITRANDA MEZHUGU

About 14 kg *(10 veesai)* of Aegle marmelos roots are taken, cut into small pieces and dried in shadow. It is then placed in a pot which is closed with a cloth. *Kuzhi thailam* and egg are placed in the pot and kept dried in sunlight for forty days after which, green coloured *mezhughu* will be formed; when taken in the size of a solanum torvum in honey, it controls *vatha* and *soolai*.

ANDA ERUKKU CEYANEER

One part of the milky juice of Calotropis gigantea and ¼ part of white of egg are kept in a bottle. After five days a small quantity of perchloride mercury is added to the above ingredients to get the *ceyaneer* which is very pungent and is used in the preparation of certain potent medicines.

Test for purity of egg:

Salt (about 1 oz- 28ml) is dissolved in 336ml of water. If the egg placed in water floats, it indicates that the egg is old. If it remains at the bottom it is a new one. One day old egg will float in water but the major portion of the egg will immerse in water.

Method of preservation of eggs:

1. The eggs can be kept in the lime water.

2. The eggs maybe placed in a box containing salt. After placing the eggs, they should be covered by salt. The salt should be dried; wet salt should not be used.

3. The egg shell has got minute pores through which the air will enter inside the egg by which the egg may be spoiled. Hence vaseline may be applied over the egg shell, so that the egg will remain pure for many days.

Types of hen:

The hen is of four types :

1. Black hen
2. Wild hen
3. Turkey fowl and
4. Water hen.

These are mainly used as dietary items.

Meat of Black hen:

This can he used in the treatment of leprosy, unknown bite, soolai, small skin eruptions, ulcer, etc. It strengthens the body.

Root of plumbago zeylanica *(kodiveli)* and Bishops weed*(omum)* are ground together. The intestine of the black hen is removed and the abdomen of the black hen is filled with the above ingredients and closed by suturing. The hen is then boiled and eaten for venereal diseases and for internal and external piles.

Meat of Wild hen: This is useful in controlling the diseases of *vatha kapha*, asthma, eczema , moles etc.

Meat of Turkey fowl: This has got the property of spermatogenesis.It induces eczema.

Meat of Water hen: It has got the property of controlling dryness, itching, scabies and eczema.

KARUNKOZHI (BLACK HEN) *CHOORANAM*

Ingredients:

One black hen (skin removed),

mustard, asafoetida, salt, pepper, garlic

42 gm of each is taken; hen is cut in back and these are put inside it and put into a mud pot and heated.

Root of Azima tetracantha *(Sangam ver)*

Calamus rotang (*Pirappan kızhangu)*

Enicostemma axillare (*Vellarugu)*

Mullugo lotoides*(Seruppadai)*

Root of Pongamia pinnata *(Pungam ver)*

Root of Anthocephalus cadamba *(Kadamba ver)*

Derris scandens (*Punali kodi)*

Euphorbia ligularia *(Ilai kalli)*

Yellow flowered Nerium odorum *(Lingam ver)*
each 438 gm.

Sarcostemma brevistigma *(Kodi kallı)*

Euphorbia antiquorum *(Sathura kalli)*

Euphorbia ligularia *(Thirugu kalli)*

Ventilago madraspatana*(Chengathari)*

Aristolochia bracteata(*Pangam palai)*

Trianthema portulacastrum *(Saranai)*

All these are cut into pieces and put into the pot, 4 times of water is added and heated for 12 hours and put into *puda* process using a sealed cloth.

After cooling, the preparation is dried in morning sunlight and then pounded and sieved and the *parpam* is bottled up for use.

Dosage : 20 days. In honey, ginger juice, *thirikadugu* decoction , plumbago zeylanica *kudineer* and garlic *thailam.*

Curable diseases : Hiccough, leprosy, *soolai*, ulcer and piles.

Dietary regimen : Salt free diet. Milk and ghee should be taken after ten days of medication.

19. *CHANKU* (CONCH)

It is called in other names as *Nandhu, Naagu, kambu, vandu, idampari. sangam* etc.

Conch is available in plenty in sea shores of Indian Ocean.

I. If the conch *(sangu)* surrounded by 1000 *cippi* (oyster) it is called *edampuri.*

ii. The conch *(sangu)* surrounded by 1000 *idampuri* is called *valampuri.*

iii. The conch *(sangu)* surrounded by 1000 *valampuri* is called *panilam.*

iv. The conch *(sangu)* surrounded by 1000 *panilam* is called *paancha sanniyam*

Allthough there are many varieties in conches, *oodhusangu* vriety (blowing conch) above is used for medicinal purposes.

Properties and uses of conch:

The conch has got body strengthening, deflatulant, appetite stimulant, bitter and mucolytic properties.

Purification of Conch:

Method - 1

Take 35 gm. of conch shell and the juice of euphorbia ligularia *(ilaikalli)* 175 gm. and put them in daylight (whole day). Repeat the process next day also and for three more days. Then it is washed to get purified.

Method -2

The conch is buried in lime stone, slaked and taken out after washing to get it purified.

Method -3

Take equal quantities of limestone and fuller's earth and add eight times of water. Put the conch in to it and boil well to get it purified.

CHANKU PARPAM

Purified conch (35gm) is taken and ground with various juices and put to *puda* as shown in the following table:

Name of the juices (1)	Quantity required in grams (2)	No of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1.Juice of coconut spadix	6	6	5	1	36
2. Flower Juice of *(kurukkathi)* Hiptage benghalensis	5	5	4	1	28
3. Whole plant Juice of Mango tree	5	5	4	1	25
4.Whole plant Juice of Syzygium cumini *(kuzhi naval)*	4	4	3	1	20
5.Whole plant Juice of Ficus racemosa *(aththi)* 4	4	3	1	18	
6.Whole plant Juice of Calophyllum inophyllum *(punnai)*	4	4	3	1	16
7.Boiled rice gruel water	3	8	2	1	'6

The parpam is useful to control dysmenorrhoea. It gives beauty and strength to the body.

The dose of the *parpam* is ¼ th size of a bean seed (weight).

Method - 1

Adjuvants:	**Curable diseases**
Honey	*Vatha*
Hot water	Tremor
Cold water	*Pitha*
Extract of Lepidium sativum	*Kapha* disease
Whole plant juice cf Mustard	Fever
Tender rice-corn juice	Fainting
Cow's milk	Sneezing
Cow's curd	Hiccup
Butter milk	*Pitha vayu*
White sugar	Ulcer
Palm jaggery	Shivering fever
Palmyra toddy	Eye disease
Ghee	Goitre
Whole plant juice of Cynodon dactylon *(arugu)*	*Vatha* fever
Rice boiled water	*Pitha* fever
Whole plant juice of Anthocephalus cadamba	*Kapha* fever

Method - 2

Adjuvant	**Curable diseases:**
Whole plant juice of Tabernaemontana divaricata *(nanthiya vattam)*	*Vatha* associated diseases like elirium, enlargement of spleen, *gunmam, paandu*, ascites, venereal *vatha*, piles, gonorrhoea, tuberculosis, asthma etc.

Whole plant juice of Vitex negundo *(nochi)*	*Kapha* associated diseases like delirium, fever, shivering fever, intercostal neuralgia, catarrah, chest pain, dropsy etc.
Honey	*Pitha* associated diseases like delirium, anaemia, ascites, tuberculosis, menorrhagia, *paandu*, piles, enlargement of spleen,excess saliva,mania etc.

Method - 3

Hair tonic: *Sankan samoola thailam, pungan thailam, thumbai thailam, thulasi thailam* and coconut *thailam* are taken individually and one part of *sangu parpam* is added to 32 parts of these *thailams* and mixed well. Application of this *thailam* promotes healthy hair, avoids greying and loss of hair.

Hair washing paste: Vallisneria spiralis *(velam paasi)*, lemon juice, leaves of Premna corymbosa *(munnai)*, whole plant juice of Syzygium cumini *(naaval)* and whole plant juice of phyllanthus emblica *(nelli)* may be used as washing paste. Also mix 122 ml musk in each washing paste and apply the *thailam* before sunrise and take bath using hot water continiously for five days and repeat for five times with a gap of five days between each bath for healthy hair.

Method - 4

Chanku purified with limestone is made as *parpam* if buried in the leaf paste of Daemia extensa.

Dosage: upto 260 ml

Adjuvant: Ghee

Curable diseases: Cough, piles,stomach diseases, enlarged tonsils, chest pain, *vayu, gunmam* etc.

Method -5

Break the conch into pieces and soak in the juice of phyllanthus niruri (*keezha nelli)* for three days and put into *puda* process using *seelai* and 50 cowdung cakes.

Dosage: 244 to 488 mg. two doses per day.

Adjuvant: Heart attack, burning sensation in chest, chest pain,dysuria and leucoderma.

Method -6

If the paste of lotus leaf is applied on the purified conch for one day and dried in sunligl t with *puda* process, it will be a fine *parpam.*

Dosage : As above

Adjuvant : Ghee

Curable diseases: Eye diseases and *pitha* diseases. Body will get shining.

Method - 7

If given with the juice of Ocimum sanctum (*thulasi)*, delirium caused by *kapha* and chronic fever will be cured.

There is also a practice to prescribe *sangu parpam* with crushed snail in a conch for curing tuberculosis.

Saint *Theraiyar* also reiterates that tuberculosis and *kapha* diseases are cured with conch shell.

CHANKU CHENDOORAM

The conch is ground separately with the juice of Cleome viscosa *(velai)* and Aloe vera *(katraalai)* and put to *puda* to get the *chendooram.*

Adjuvants:	**Curable diseases:**
Cleome viscosa (white)	Body heat
Sandal paste	*Vatha*
Garlic *rasam*	Delirium with perspiration, *pitha* diseases
Leaf juice of Styrax benzoin tree	Swelling with *paandu*

Lemon juice	White leprosy
Jaggery	Ulcer associated with diabetes
Fruit juice of Syzygium cumini	Patches in the whole body
Cinnamomum verum	Delirium due to chillness

VELLAI MATHIRAI

Coral, zinc sulphate, alum and parched copper sulphate are taken (4.2 gm each).Conch (108. gm) is taken, washed with water and dried. The above ingredients are powdered and triturated with breast milk (168ml). Then tender coconut water (336ml) is added and triturated again. Pills are made and dried. The pills so prepared should be used only after one year which is useful in the treatment of eye diseases.

The conch is rubbed with breast milk or with Murraya koenigii *(karivepilai)* and applied over the pimples, acne and boils of the eye.

20. DUNG

The dungs of cow, buffalo, goat and donkey are used for preparing medicines.

Cow's dung: It reduces the swelling caused by stone injury. It also controls the haemorrhage, worm infections, *kapha* associated fever and excessive thirst. It keeps the body purified and it is equivalant to coconut milk.

Buffalo's dung: This is useful in the treatment of flatulency, haematemesis, jaundice, menorrhagia and ulcer.

Goat's dung: It may calcine the steel. It controls vatha diseases and ascites.

Usage:

The liquified cow dung is used for the purification of Croton tiglium and Semecarpus anacardium and is also useful for making *kavasam* and dung *puda*.

The cow dung dissolved in water and boiled. When it becomes warm, it is applied as external application *(pattru)* over the swellings to subside.

The liquified cow dung is used as an antidote for *paadanas* and the dungs of young cow, that has not given birth to a calf, can be given internally to counteract with the poison of scorpion bite.

The milk curd, ghee, urine and cow dung mixed together is known as *pancha cowiyam* which is a best purifier of the body.

The manure of goat is used for putting *puda* for tampira parpam.

21. URINE

Urine is one of the ingredient in many siddha medicinal preparations. Cow's urine is commonly used, both internally and externally; it has diuretic and laxative properties.

HUMAN URINE:

The human urine can be useful in the treatment of poison by unknown bites, anaemia, *vatha* dhosas ; if it is taken internally it cures cough,asthma, diabetes, syphilitic ulcers and blood associated diseases; if inhaled fever, privation of any organ, apoplexy, a kind of malarial fever and various poisons can be controlled; if the boils occuring in eyes, face and ear are washed with urine, they will disappear.

Cow's urine: It is useful in the treatment of severe *paandu (visa paandu),* anaemia, jaundice, various poisons, blood associated diseases and teeth disease .

Buffalo's urine: It is useful in the treatment of abdominal distension, jaundice, gonorrhoea, anaemia, various swellings and infections. It increases body heat.

Goat's urine: It is useful in the treatment of anaemia, burning sensation due to various swellings, haemorrhagia, hypertrophy of flesh and ascites.

Elephant's urine: It is useful in the treatment of adiposis obesity,anaemia, *vayu,* worms, poisons and black eczema. Body will also be strengthened.

Horse's urine: Hot urine of thc horse may be useful in the treatment of foot cancer, irregular patches, worm infection,*vatha* disease and *kapha*dhosa.

Camel's urine: Hot urine of the camel is useful in the treatment of urticaria,apoplexy, arthritis due to gout, cramp, hernia,abdominal pain and leprosy appear with circular boils.

Donkey's urine: It is useful in the treatment of heat, seminal wastage, asthma,wheezing, mild poisons, worm ulcer in the legs,a transparent mucous wiry discharge from the urethra. privation of any organ,diseases of the throat and tongue,syphilis and children's diseases.

USES OF COW'S URINE:

When cow's urine is filtered and taken at doses of 1-2 oz, daily ascites, urinary retention, constipation, leprosy and skin diseases are cured.

The decoction of Terminalia chebula *(kadukkai)* peel soaked in cow's urine (8 oz) cures bubo in the groin and constipation.

Aconitum napellus *(naabi)* is purified by soaking individually in cow's urine for three days.

Iron, steel and oxide of iron are heated separately in blacksmith's furnace and soaked in cow's urine. This process is repeated several times to get them purified.

Other uses of Goat's urine:

The goat's urine is gently heated and filtered. When it is given at the doses of 1-1½ oz in Nardostachys grandiflora *(sadamanjil)*, it controls epilepsy.

Horse's urine is used for the purification of nine gems. Donkey urine is used to purify *thalagam* (yellow arsenic trisulphide).

Amuriuppu : In general, urine is used as an adjuvant for certain diseases. The salt got by boiling the urine known as *amuriuppu* (salt) is added in certain drugs rarely.

22. *SURA* (SHARK FISH)

Shark fish is available in plenty in the seashores of Southern India. There are many varieties in shark but the white shark *(paal sura)* is mainly used for medicinal purposes.

The flesh of shark controls *vatha, kapha* and intestinal *vatha* diseases. It also kills the microbes.

Salted and dried shark fish is useful in the treatment of deep seated pain *(soolai)*, diarrhoea, ulcer, dysentery, etc. It stimulateS appetite also.

The shark also has the property of increasing lactation and control of *vatha* and lochia.

Usage: The purified shark fish can be taken in the form of *kuzhambu* by adding pepper and garlic and in the form of *puttu* adding onion,garlic and chillies etc. which cures, body pain due to vatha cold,dropsy and lochia.

The shark liver oil is given along with jaggery for the treatment of night blindness.

The shark liver oil contains vitamin A and D which gives strength to the body. This oil can also be applied externally for rapid healing of burns, scald and chronic ulcers.

Shark liver oil is also useful for asthma and loss of weight.

23. TEETH

The teeth of various animals such as bear, sheep,elephant,ox,cow, buffalo, camel, horse and pig are purified and used as medicinal powder *(parpam)*.

Purification:

For every 35gm of pounded teeth powder teeth 175ml of breast milk is added and kept in sunlight from morning to evening for five days. Each day the breast milk is added freshly. It is then kept in sunlight for two more days till the milk is evaporated; it is then washed and taken out purified.

The purified teeth powder (35gm) is ground with the whole plant juce of Solanum trilobatum *(thoothuvalai)*, pills are made and put to *puda* to get the *parpam* as shown in the following table:

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days required for drying the cakes (4)	No. of days required for drying kavasam (5)	No.of dung cakes required for puda (6)
1.Whole plant juice of Solanum trilobatum*(thoothuvalai)*	4	4	3	1	40
” ”	4	4	3	1	35
”	4	4	3	1	30
”	4	4	3	1	25

Teeth Parpams of :	**Curable Disease**
Male bear	Ascites
Female bear	Delirium
Sheep (ram)	Asthma
Sheep (ewe)	Leprosy
Male elephant	Fever
Female elephant	Diseases associated with *vatha*
Ox	Pulmonary diseases
Cow	*Pitha* disease
Buffalo(male)	Vertigo
Buffalo(female)	Venereal disease
Camel	Diseases of the nose
Female camel	Cramp
Male horse	Diarrhoea
Female horse	Diabetes
Male pig	Leprosy
Female pig	Cough related diseases

Dose : One bengal gram weight.

Adjuvant: Palmyra toddy.

24. HONEY

Honeybees absorb the sweet substances from the flowers and store in the honey-sac present in their body. The sweet substance undergoes some changes in the honeybees to form the honey. The honeybees built the honey nest mostly in mountains, tree holes and in ant hills. The professional honey collectors collect it along with pollen grains, worms and eggs etc. and supply to the shops for sale. Hence, the honey available in shops is mostly impure. At present the honey is collected by modern methods by using cages and machines. Sugar solutions also are sold as honey in market.

Freshly collected pure honey will be very sweet and appear as clear yellow liquid. Honey contains traces of metals and vitamins.

Properties and uses of honey:

Honey has anti-inflammatory, laxative, bitter, mucolytic, appetite stimulant, nutritious and sedative properties.

When given to children, it acts as a mild diuretic and reduces flatulency.

Honey is of five types: 1. Hill honey 2. Tree honey 3. Tree hole honey. 4. Ant-hill honey

5. House honey. Each type of honey has different properties.

Hill honey : Honey obtained from the hill is useful to control asthma, hiccup, ulcers of the eye, fever and throbbing pain of the body. It stimulates appetite. It is used as a good adjuvant to many drugs.

Tree branch honey : This honey is useful to control tridhosa and loss of appetite.

Tree hole honey: It has appetite stimulating and hyperthermic properties and is useful in the treatment of vomiting, indigestion, various types of hiccup, asthma and tuberculosis.

Ant-hill honey: This honey will be useful in the control of phlegm, asthma, vomiting and eye diseases.

House honey: This type of honey will be useful in the treatment of ulcers, fistulae, erysipelas, eye infections, tinea (ringworm) and asthma. It stimulates appetite.

Fresh honey: It prolongs the life span and gives heat and brightness to the body. However, if taken in over dose, it induces loss of taste and phlegm.

Old honey: This may produce burning sensation in stomach, and cause *vatha* associated diseases. It will spoil the effects of other medicines.

Purification of honey:

As already said above, the honey available in shops is impure and hence it should be purified before use. It is purified as follows: It is heated by steam heat and filtered in wet wollen cloth while it is heat and collected in clean containers.

Other uses of honey:

Honey is also useful for preparation of various medicaments such as leghiuam, syrup, *mezhugu, kattu* and collyrium.

Honey is a best adjuvant for *parpam, chendooram, choornam*,pills and decoction. As an ambrosia it maintains the body health, besides curing the diseases caused by *vatha, pitha* and *kapha.*

Honey (2oz. 56 ml) is mixed with equal quantity of juice of wood apple or lemon juice and given in small doses for control of cough in children.

Honey (7ml) mixed in 14ml of castor oil is given to asthmatic patients. It acts as a laxative and reduces dyspnea.

Honey mixed with barley rice water is given for treating of constipation, indigestion,dropsy, cough, throat ulcer and lung diseases.

Honey is also useful to strenghthen heart, to gain body weight and to treat *kaphavatha* fever.

Honey is given to elderly patients for clearing the throat secretions and for improving their body strength.

The diabetes medicines are prepared with honey, which is an important adjuvant.

Honey mixed with lime is applied topically for headache and around the umblicus for abdominal pain. It is also applied over the boils.

Honey can be used for gargling with any medicinal liquid to control phlegm.

Honey is also applied topically for nipple fissures, breast enlargement and abdominal swellings. For burns caused by fire and boiling water, honey is applied over the ulcers for rapid healing.

For removing oily substances from the hand, honey is used for wash.

On local application honey cures hyperpigmented areas on the face and then the face is washed with hot water. It also gives fascinating appearance to face.

If honey is taken regularly, it gives good health and long life.

Honey improves beauty and prevents the formation of wrinkles over the skin. In South India, honey is used as one of the ingredients in *panchamirtham* which is eaten by the devotees after worshipping the god. However, if honey is taken along with equal quantity of ghee, it will be toxic to the body.

In Allopathic medicine, honey is used as a demulcent and sweetening agent, especially in linctures and cough mixtures. It contains 70 to 80% of glucose and fructose, together with water and traces of other nutrients. Honey is also used as a substitute for glucose in oral rehydration therapy for the treatment of infantile gastroenteritis.

Honey Sugarcandy:

When frozen, honey becomes sugarcandy which is useful in the control of pterygium developing over the conjuctiva. The sugarcandy is powdered and placed in the eye to dissolve and remove the pterygium. The sugarcandy is also useful in the control of fever, *kapha* and *vatha* diseases. It also stimulates appetite.

The honey sugarcandy when sucked by mouth controls many diseases which are controlled by honey.

25. CRAB *(NANDU)*

Crab is present in sea and also in cultivated lands. The crab available in cultivated land is preferred for medicinal as well as for dietary purposes. The flesh of crab has got pitha removing, diuretic, laxative and blood improving properties. The crab from sea may induce various diseases such as abdominal pain, erysipelas, cczema and bloody diarrhoea.

The Crab from cultivated land when eaten will reduce cold, eczema and excessive bowel sounds. But it will increase *pitha.*

NANDU THEENEER

The crabs from cultivated land are pounded along with their shell. To 10 parts of the pounded crab, 1 part of anise seed is added and 8 parts of water is poured in the distillation flask; *theeneer* is prepared by distillation. The *theeneer* has got hypothermic and body strengthening properties. It is used in the treatment of fever associated with rigor and tuberculosis.

Dose: 14-28 ml.

NANDU CHAARU

Crabs (25 nos) are washed and placed in a mortar and pounded. The pounded material is placed in a mudpot. Dried ginger, pepper, coriander seeds, liquorice, Alpinia galanga(small variety) and cooking turmeric (8.75 gm each) are taken powedered and placed in the pot. Water (4 litres) is then added and the pot is heated till 75% of water is evaporated. The juice is collected after filteration,which is taken at a dose of 2-3oz. three times daily for control of sinusitis, fever, throbbing pain of the body and cold.

NANDU KUZHINEER

(CRAB HOLE WATER):

This is obtained from the cultivated land which is useful in the control of vomiting, thirst, intractable hiccup, bodyheat and burning sensation etc.

If the crab kuzhineer is filtered and taken at doses of 42-84 ml. it controls whooping cough occuring in children.

NANDU KUZHAMBU (COOKED CRABS)

Preparation method:

Ingredients:

Pounded crab *rasam*	2 ltr
Root of long pepper	4.2 gm.
Musk	488 mg.
ox bile	732 mg.
Saffron	976 mg.
Clove	35 gm.
Nut meg	8.75 gm.
Cinnamon bark	8.75 gm.
Bishop's weed	8.75 gm.

The extract of crab *(rasa)* 2 litre is ground with the above ingredients. Sufficient quantities of chilly, pepper, tamarind, salt, coriander seed, garlic, onion, curry leave, coriander leaves, and ginger are then added and boiled. The *kuzhumbu* will be obtained after the *nei* which floats on the top is removed. It controls tuberculosis, when consumed with rice.

26. *NATHTHAI*

(FRESH WATER SNAIL)

Other name: *Oomaichi.*

It is available in plenty in ponds. It eats the excreta and other waste products present in water and thus makes the water clear.

Cooked flesh of snails controls hemorrhoids and rectal diseases. When taken for long periods, it increases sperm production (spermatogenesis) but causes indigestion.

NATHAI PARPAM

Water snail is washed with water, placed in a mud pot, covered with mud soiled cloth and put to *Gana puda* to get the parpam. This *parpam* is ground with the juice of Abutilon indicum *(thuththi)* and made into small pills and again put to *puda.*

Dosage : Half to one size of a tamarind seed (weight).

Adjuvants: Ghee or butter

Curable diseases: Ano-rectal diseases, haemorrhoids and dysentery.

The snail flesh is used as *Amai leghiuam*; which controls the piles. The snail is used in the preparation of *thalaga karuppu* (orpiment purified with some ingredients; then it becomes to black powder, called *thalaga karuppu*).

27. *NARI ECHAM*

(JACKAL'S EXCRETA)

The smoke made from the jackals excreta and neem bark controls haemorrhoids effectively.

28. *PALAKARAI*

(CYPRAEA MONETA- MARINE SHELL)

Palakarai is considered as one of the five wealth of the sea. The marine shell resembles the size of a tamarind seed upto an almond size and is available in white, yellow and red colours. The white marine shell is considered as superior for medicinal purposes.

The marine shell has got bitter, mucolytic and hypothermic properties. On external application, it causes skin rashes. The white marine shell controls thirst, diarrhoea and dysentery, toxic fever, eye diseases, *kapha vatha*, indigestion, jaundice, enlargement of liver and spleen, asthma etc.

Purification Method - 1

Palakarai powder 35 gm.

Fruit juice of Averrhoa carambola *(thamaratham)* 350 gm.

The above ingredients are mixed and placed in daylight for a whole day. The process is repeated next day also using fresh fruit juice and continued for 15 days for perfect purification. Products of such purified *palakarai* cures various types of juandices, discolouration patches on the skin, eye diseases etc., and gives strength to body.

Method - 2

The marine shell is kept soaked in lemon juice or rice-gruel and then taken out as purified.

PALAKARAI PARPAM

Purified marine shell (35 gm) is ground with various juices and put to *puda* process as shown in the following table:

Name of the juices (1)	Quantity required in grams (2)	No. of days required for grinding (3)	No. of days days required for drying the cakes (4)	No. of required for drying the kavasam (5)	No.of dung cakes required for making puda (6)
1. Whole plant juice of Calophyllum inophyllum *(surapunnai)*	4	6	5	1	36
2. Whole plant juice of Plumbago zeylancia *(chitramoolam)*	4	5	4	1	30
3. Whole plant juice of Ficus dalhousiae (kallal)	4	4	3	1	24

4. Whole plant juice of wild jasmine	3	3	2	1	18
5. Whole plant juice of Nymphae stellata (neelortpalam)	2	2	1	1	12
6. Clear water of sandal	1	1	1	1	6

Fresh juices should be used each day. The pills are dried in sunlight as well as in dew at night.

Disease conditions cured by the *parpam*	Adjuvants
Dropsy, anaemia, jaundice *(paandu)*	Milk
Venereal heat	Rose water
Vomiting	Butter
Abdominal pain	Cow's butter milk
Fainting	Cow's ghee
Delirium	Curd
Cramp	Sour vinegar
Anaemia	Hot water
Pin prick pain felt on the sides	Juice of Amaranthus gangeticus
Digestive disease of children	Juice of Aloe vera
Throbbing *vatha* disease	Juice of tubers of Asparagus racemosus
Kapha disease and fever associated with it, delirium, chronic cold, ascites and asthma coughetc.	Toddy
Pitha disease and its associated diseases, abdominal distension,	

hiccup and chronic cold etc.	White sugar
Vatha disease and *vatha gunmam* associated with it, *vatha* fever, paralysis, delirium, ascites and indigestion, etc.	Flower juice of Mimusops elengi

Other uses of the *Parpam:*

1. It cures, venereal disease associated with *vatha,* if given in pepper juice.

2. It cures, venereal disease associated with *pitha*, if given in dried ginger juice.

3. It cures, venereal disease associated with *kapha,* if given in piper longum juice .

Regimen: Avoid tamarind, gingelly oil, mustard and sexual activity.

Duration of treatment: 30 days.

Palakarai parpam is given with jaggery mixed with coconut milk for curing *vatha* related venereal diseases.

It is given with sweets, savouries and snacks prepared with sugar,wheat flour and milk for curing *pitha* related venereal diseases.

It is given with *pittu* prepared from rice flour, sugarcandy and milk for curing *kapha* related venereal diseases.

Usages of *Palakarai parpam* for poisons of living creatures or animals:

If the *Palakarai parpam* is given with suitable adjuvants, it cures poisons caused by induced and natural rabies of mad animals like dog,fox, human, cow,buffalo and pig.

The induced rabies mad caused by living creatures or animals or human toxins can be curable; natural toxins are incurable.

TREATMENT OF RABIES WITH *PALAKARAI PARPAM:*

Name of the animal:	Adjuvants:
1. Dog	
i. Natural rabies	Juice of Curculigo orchoides *(nilapanai)* and cowgram gruel
ii. Induced bite	Juice of banyan leaves and horsegram gruel
2. Fox	
i. Natural rabies	Bamboo juice and dhal gruel
ii. Induced bite	Phyllanthus amarus *(keezhanelli)* and green gram gruel
3. Cow	
i. Natural rabies	Betel leaves and little millet
ii. Induced bite	Achyranthes aspera *(naayurivi)* and kodo millet gruel
4. Buffalo	
i. Natural rabies	Nut grass and Italian millet
ii. Induced bite	Prosopis spicigera *(vanni)* juice with grass seeds gruel
5. Pig	
i. Natural rabies	Juice of bitter wild snake gourd and wheat gruel.
ii Induced bite	leaf juice of bitter gourd and gruel of bamboo sago.
6. Human being	
i. Natural rabies	Juice of Mollugo lotoides *(cheruppadai)* and black gram gruel.
ii. Induced bite	Creeper juice of jackal green gram and lablab seed gruel.

Usages of *Palakarai parpam* for wounds:

1. Wounds caused by thorns and ox-horn	Apply with parrot egg's yolk
2. Wounds caused by palm leaf stalk	Apply with hen's eggs yolk
3. Wounds caused due to knife, spear etc,	Apply with pigeon egg's yolk
4. Wounds caused by Stonning and bruise caused by falling	Apply with frog's egg yolk
5. Wounds caused due to ancient weapon *(Gadhai)*,stick and pestle	Apply with crow egg's yolk
6. Wounds caused by striking with hands and pinching by nails	Apply with nightingale egg's yolk
7. Chronic wounds caused by various other means	Apply with tortoise egg's yolk

It has rejuvenating power to restore the body strength and sexual enjoyment.

Palakarai chendooram:

The purified *Palakarai* powder (35gm) is ground with equal quantities of bark juice of mango tree, juices of Heliotropium indicum *(aanai vanangi)*, Mimosa cinerea *(vidather)* and Mollugo lotoides. Pills are made, dried and put to *puda* to get the *chendooram.*

Disease	**Adjuvants**
Kapha diseases	Juice of Allium sativum
Heat diseases	Juice of Bauhinia racemosa *(aaththi)*
Vatha fever	Juice of Leucas aspera *(thumbe)*
Pitha fever	Hot water
Delirium associated with heat diseases	Sugar
Hemorrhoids	Butter
Heart diseases	Tragia involucrata*(aanai kanjori)*
Vatha fever due to rat poison	Sodium chloride

Dosage: 325 mg. to 650 mg.

Curable diseases: Dysuria and gonorrhoea

Other uses:

It is made into paste and used as a rubifacient.Lemon juice is added with sufficient quantities of Palakarai chendooram and put into a mud vessel and sealed. Next day morning it is takenout and dried in sunlight. On the 6th day it will be a fine powder.

In the above powder gingelly oil is mixed and made into a paste and applied for curing leprotic ulcers.

29. *PANDRI* (PIG)

Other names: *Kidi, Kolam, Varaagan* and *Hari.*

There are three types of pigs viz :

1. Country pig, 2. Wild pig, 3.Porcupine.

Of these, the flesh of country pig will induce many diseases and antagonise the effects of other drugs taken concomitantly. Hence the flesh of wild pig and porcupine are preferred.

The flesh of pig has got anti-inflammatory, hydrating and laxative properties. It also controls asthma, eye disease, poisonous bite, venereal ulcer, haemorrhoids and skin diseases.

The ghee of pig controls urinary infections and haemorrhoids. It will also heal burns, nonhealing deep wounds, sprain,etc.

The fat of pig is heated in an iron pot and ghee is obtained. The ghee when applied over the burns and deep ulcers with the help of hen's feather, the ulcers heal rapidly. It is also used as one of the ingredientS in the preparation of various ointments *(kalimbu)* prepared for wounds.

CILAI THAILAM

Pig ghee 700 gm. is put into a vessel and the bark juices of Ficus religiosa, Lannea coromandelica *(oathimaram),* Acacia arabica, Emblica officinalis, Streblus asper (red variety of sembura- piray) are added (each 70 gm). Red sulphurate of mercury, Areca nut and Acacia catechu each 35

gm. are soaked in it for three days. On fourth day, it is heated with mild fire and distilled. The *thailam* heals deep and chronic ulcers.

30. SNAKE'S SLOUGH

The snake's slough is placed in fire to get smoke. The face of children is brought near the smoke for removal of dhosas.

The snakes slough and entangled hair of donkey are rolled in a red cloth, neem oil is added and burnt to obtain *sudarthailam*. If it is taken internally for three days, it cures madness. This *thailam* is also used as an external application.

31. MILK AND MILK PRODUCTS

Milk is liquid in nature which contains casein, sugar, minerals and fat droplets. Water constitutes more than 85% of milk content, it is white in appearance.

The casein content of the milk mixes with the blood rapidly. The sugar and fat content of the milk give strength and calorie to the body. The calcium and phosphorous present in the milk stimulate the brain and the nerves and help in their proper function. The sodium in the milk stimulates the ductless gland. When milk is taken, the white blood cells increase and prevent infections. Milk also contains vinegar substances that help in the conversion of food so that the food mixes in the blood easily. Milk is considered as a complete food since it contains all the essential nutrients required for the strength and growth of the body.

Cow's milk is considered as the best. It contains all the five elements *(Pancha boothas)*. Cow's milk is very effective in the treatment of recurrent fever, ulcer, *soolai*, weakness and loss of body weight in children and in elderly persons.

It is also considered that white coloured cow's milk removes the fatigue and the grey coloured cow's milk controls thirst. The red coloured cow's milk controls tuberculosis while the spotted cow's milk controls venereal disease. Unboiled milk stimulates appetite, while the boiled milk reduces body heat.

It is considered that goat's milk aggravates *kapha*; white goat's milk aggravates *pitha*; short goat's milk aggravates *vatha kapha*; buffalo's milk

aggravates *vatha*; the wild buffalow's milk aggravates *kapha* and cow's milk aggravates heat.

Cow's milk : According to the text *Pathartha Guna Chinthamani*, white coloured cow's milk controls *pithakopa*; red cow's milk controls *vatha* dhosa; black cow's milk controls *kapha roga*; and the black mixed golden coloured cow control's *tridhosa*.

Milk of grey coloured cow controls eye disease, tuberculosis, *dhosas* of other milks and haemorrhage.

The milk of cow which shakes its horn will control *pitha roga* and improve sperm production.

The milk of cow which has given birth to three calves will control phlegm disease and the milk of cow which has given birth to four calves will control tridhosa and improve body health.The milk of the following varieties of cow will spoil the body health:

1. The cow with *aranai* and *thaara* diseases.
2. The cow with white spots which is roaming around.
3. The cow that eats faeces.
4. The cow that eats the bones from graveyard.

The milk of cow that milched in the daytime, eventhough is suitable for children, will cause various *kapha* diseases. If tamarind is taken along with this milk, it will produce adverse effect on the body. However, it will control the body heat.

The milk that secreted during daytime and milched at night will control burning sensation of the body, *kapha - pitha roga*, asthma, eye diseases, etc. It will also give shining appearance to the body, besides increasing the sperm production and love towards women.

Buffalo milk : It is considered that this will affect the sharpness of mind and may produce palsy. It will antogonise the effect of the good medicines taken concomittantly.

Goat's milk: It controls asthma, diarrhoea, ulcer and swelling caused by *vatha*. It will stimulate appetite.

Sheep's milk: This will cause abdominal distension, dyspnoea and vayu. Hence, this will not be useful as an adjuvant.

Elephant's milk: It gives enormous strength to the body It also improves sperm production and body counter However, it will produce diseases associated with *pitha*

Horse's milk : It improves sperm production, body counter and sexual performance.

Camel's milk: The milk of camel causes indigestion, *vathasoolai*, eight types of erysipelas, mental retardation, deafness, excessive cough, wheezing, etc.

Donkey's milk: The milk of donkey is very sweet. It controls *vatha* disease, erysipelas, ulcer. ring-worm, venereal ulcer, scabies, boils, madness, *pitha dhosa* and phlegm.

Properties of milk boiled in various vessels:

The milk that boiled in copper vessel controls *vatha silethumam*; that boiled in golden and earthern vessels controls *pitha dhosa* while that boiled in silver, bronze and iron vessels controls pulmonary diseases Cheese removed milk controls *vatha, pitha* and *kapha* dhosas. It increases digestive fire.

Amount of water to be added to milk:

For cow's milk and goat's milk water has to be added in the ratio of 8:1; for the milk of buffalo and sheep, the water ratio is 1:1. If the milk from any source is boiled with dried ginger and root of Tragia involucrata its properties will resemble goat's milk and do no harm.

Properties of the cream of boiled milk:

The cream of boiled milk is effective in controlling madness, severe vomiting, fainting and heart burn. It also gives good strength and improves sperm production.

PROPERTIES OF BREAST MILK:

The breast milk is effective in the treatment of seven types of *dhosas*, heat, *vatha, pitha* and *kapha* fever, *tridhosa* and dryness of tongue. It also gives strength to the body and is used as an adjuvant for many medicinal preparations

The breast milk of women having black complexion will be useful only in eye diseases, where as the breast milk of women with fair complex-

ion will be effective in the treatment of *vathathi tridhosa*s.The breast milk of prostitutes will produce *tridhosa, vatharoga*, syphilis and venereal ulcers.

GENERAL PROPERTIES OF CURD:

Curd will control all the ordinary diseases caused by excessive pitha and give strength and health to the body.

Cow's curd: It stimulates appetite. It controls convulsion, digestive disorders, thirst, tiredness, cough and burning pain of the body.

The cream removed curd is effective in the treatment of tiredness, dysuria and venereal disease.

Buffalo's curd: It is useful for burning pain of the body and pitha disease. It also gives cooling to the eyes. However, it causes dullness of the mind.

Goat's curd: This will produce excessive heat. Its cream will produce dullnes.

Sheep's curd: Sheep's curd will produce erysipelas, eczema, painful piles and *vatha roga*. It will also produce ill-health to the body.

Camel's curd: This will produce heart-burn, erysipelas and ulcer. However, it gives beauty to the body and controls thirst.

GENERAL PROPERTIES OF BUTTERMILK

It will control tridhosa and improve body health.

Cow's buttermilk: This will control ascites, abdominal pain, *paandu roga, pithakopam*, diarrhoea, *tridhosa,* indigestion, heat and thirst. It will also reduce swellings.

Buffalo's buttermilk: This will control thirst, diabetes insipidus, jaundice and infections. It will also increase sexual desire.

Camel's buttermilk: This will control *pitha vathathondham*. Its ghee eventhough produces indigestion, improves sperm production.

GENEREL PROPERTIES OF BUTTER:

Butter generally gives cooling effect to the body and improves sperm production.It will also improve body strength.

Breast milk- butter: This will control burning pain of the eyes, limbs and nose.

Cow's butter: This will control burning sensation of the eyes and eye discharge. It is a good appetizer.

Buffalo's butter: This will control dysuria. However it will produce indigestion, excessive phlegm, *vatharoga*, erysipelas, etc.

Goat's butter: This will control *pitha* disease and erysipelas. It stimulates appetite.

Camel's butter: This will give good appearance to the body and controls diabetes. However, it may cause dullness and *vatharoga.*

GENERAL PROPERTIES OF GHEE:

When ghee taken in required quantities along with usual diet, it helps in proper digestion and utilisation of the diet and gives strength and vigor to the body.

Cow's ghee : It controls thirst, vomiting, excessive *pitha*, burning sensation of the stomach, pitha hiccup, abdominal pain, dryness, prickly heat, cough, hypermotility of the gut,weekness of bones, piles etc.

Grey coloured cow's ghee: This will give brightness to eyes and body strength. It controls diseases of eye, eyebrow, forehead and head.

Buffalo's ghee: It will produce *vathapitha dhosa* and erysipelas.

Goat's ghee: This will control excessive phlegm and *vatha.* Also helps in body growth. It improves brightness of vision and is useful for diet regimen.

Sheep's ghee: Sheep's ghee increases *kapha* diseases. The dwarf goat's ghee cures *pitha* diseases but causes indigestion.

Properties of mixed ghee:

This will improve sperm production. It also stimulates appetite and controls *pitha dhosa* and *pitha* fever. In addition, it gives strength to the body.

USES OF MILK AND MILK PRODUCTS

COW'S MILK:

Cow's milk has been an essential dietary item for man since birth. In children, milk alone has been the only best diet.

Traditionally, it has been in practice of drinking milk in which the root of Tragia involucrata is placed and boiled for the treatment of tuberculosis.

Cow's milk has also been one of the ingredient of dried ginger thailam, *birungamalaga thailam*(a medicinal oil prepared with eclipta plant and indian gooseberry), Phyllanthus amarus *thailam* and Alternanthera sessilis *thailam.*

When women drink cow's milk, breast milk secretion will be increased; cow's milk will also control *pitha* diseases like haemorrhage and vomiting in women.

Cow's milk is given as an antitode for poisoning due to perchloride of mercury, copper sulphate, *dravaga* etc.

When freshly milched cow's milk is drunk in the morning, it controls jaundice, haemorrhage, spermatorrhoea, burning sensation of extremities and phlegm secretion. It improves health in adult and children.

Cow's milk has also been included as one of the ingredients in many *leghiyas* like *Panchadeepaakkini,sarapunga vilvathi, venpoosanai, thetran, impooral* etc.,

Cow's milk is used for purifying the drugs such as sulphur, Operculina turpethum*(sivathai)*, Cassia senna *(nilavarai)*, Withania somnifera *(aswakanthi)*and Smilax china *(parangichakkai)*, etc. and also in many *chooranas.*

Cow's milk is also used as a dietary regimen during illness. It is one of the essential ingredients for drinks such as coffee, tea and cocoa.

It is used in the gruels prepared from broken wheat, sago, arrowroot

and barley.

Cow's milk should not be given in dysentery,fever caused by indigestion and in *kapha* diseases.

In delirium fever if there is diarrhoea the decanted water of boiled cow's milk added with lemon juice gives good result.

When cow's milk is taken along with soda, it controls abdominal pain, vomiting and dysuria.

In western countries, cow's milk was used in the past as intramuscular injection for the control of venereal disease, scabies, cramp in the extremities, etc.

Cow's milk boiled with Piper longum or liquorice or pepper and drunk after adding sugar candy, controls dry cough and sore throat.

BREAST MILK:

Breast milk is an ideal diet for children as it contains all the nutrients essential for the growth of children and is easily digestible. Children feed on breast milk will rarely contract infectious diseases.

Mothers, while giving breast milk to their babies, also bestows best qualities such as kindness,affection, bondness and knowledge.

Mother's milk is prescribed as best adjuvant for certain diseases. For chronic constipation caused in delirium and fever cases, breast milk is considered as best medicine.

Milk is ground with borneo camphor, saffron flower, cloves and stem of betal leaf. A cloth soaked in this milk is applied over the body and head for the control of fever and headache.

Breast milk soaked in a cloth and applied over the abdomen, cures dysuria and constipation especially in children.

Breast milk is also instilled as eye drops for eye diseases.

Breast milk is used to purify cinnabar, *rasa chendooram* , subchloride of mercury etc. It is also useful for grinding the drugs like *chandamaarutha chendooram* and *kasturi* pills. It is also added in the preparation of *saranaathi thailam.*

Breast milk and ginger juice are taken one part and equal quantity of

gingelly oil is mixed , boiled and used as a hair oil for curing the head ache caused by cold.

BUFFALO'S MILK:

Buffalos are not available in foreign countries. In India the number of buffalos are more than the number of cows. Buffalo's milk contains more nutrients like fat and proteins than in cow's milk. But it is not easily digestible and so it should not be given to children, women, elderly and for patients.

GOAT'S MILK:

It contains less protein and less fat and is also less sweet. But easily digestible. This is an ideal regimen for patients during medication. It is mixed with small quantity of water and added with sufficiant quantity of sugar candy and drunk in the morning and evening for curing *kapha* diseases. It is also used as an adjuvant for *chendooram*'s such as iron and magnetic iron which are given for anemia, jaundice, etc. The diseases are cured rapidly when goat's milk is used as an adjuvant.

Goat's milk is also an ingredient in many thailas such as *milagu thailam, vathakesari thailam, amirthamalaga thailam, neerkuntri thailam, moolayoga neerkuntri thailam, ulundu thailam and laguvidamushti thailam.*

Goat's milk is also given to children who are suffering from disorders of liver and spleen. The milk of the goat that eats various herbals, cures asthma.

DONKEY'S MILK:

It is sweeter than any other milk. This controls body heat and *kapha.* It is preferred for the pulmonary diseases.

The composition of donkey's milk is more or less similar to that of breastmilk. Hence, it is considered as best substitute for mother's milk. In fact, in places such as Calcutta, the children are given donkey's milk instead of mother's mik.

To a tablespoonful of donkey's milk one or two drops of garden lizard blood is added and given for blackish syphilis *(karunkiranthi).*

Donkey's milk is also effective in the treatment of venereal disease

and madness.

It is used in the preparation of *peranda parpam.*

If paddy is placed inside donkey's milk, the milk will not be spoiled.

CURD

Curd is generaly used at the end of the noon meal in South Indian food. It gives beauty and strength to the body.Curd is used as an adjuvant for medicinal leaves and is given for venereal disease and jaundice.

Curd is placed in a cloth and a knot is placed. The water oozing from this cloth is used for the treatment of peptic ulcer. It also stimulates appetite.

Hydnocarpus laurifolia *(neeradi muthu)*, Psoralea corylifolia *(kaarpoga arisi)*, Coconut kernel, Vernonia anthelmintica *(kaattu cheeragam)*, Nigella sativa *(karun cheeragam*, sulphur, etc are ground alongwith curd and applied topically for rapid healing of scabies, eczema, erysipealas etc.

Curd is also used as an ingredient for *thayirchundi chooranam* which is given for dysentery caused by indigestion.

BUTTERMILK

It is a food habit in Tamilnadu to take rice with butter milk at the end of a meal. It prevents constipation and reduces body heat. It also acts as a mild diuretic, reduces pain and swelling of the ankles and makes free micturition.Cow's buttermilk is better for speed walkers and hungry persons and persons who are suffering from heat. It cures heat, thirst etc.

For patients suffering from leprosy, watery butter milk is more useful during medication, which eliminates all the bad liquids with urine.Butter milk is used as a best adjuvant and regimen in the diseases of ascites.

BUTTER

It has anti-inflammatory and tonic properties. It is used as an ingredient for eye ointments (*palakkiraambu* , *pakkuvavennai)* and the ointments *(amirthavennai,vangavennai)* applied on the ulcers

and wounds. When applied over the mouth, it cures mouth ulcers rapidly.

Hot rice mixed with butter is placed in a cloth and the cloth is applied over the eye for control of pain in the eyes.

While giving *the kalnaar parpam*, *silajit* (gypsum) *parpam* and *kukkil parpam* for dysuria, anuresis, leucorrhoea, cow's butter is the best adjuvant for better results.

NAVANEETHA PARPAM (making butter as *parpam*):

Take 35 gm. of butter and ground with the juice of indigo plant. Make the paste as pills and put them in the night snow. Repeat the process for 8 days and dry it for 8 days and then grind it for 8 days individually using the juice of Crotalaria retusa *(vatta kilu kilppai)*,whole plant juices of Tinospora cordifolia *(seendil)* Acalypha indica *(kuppaimeni)* separately and dry it for 8 days as before.

Repeat the process for 64 days and on the 65 th day put the pills in a mud pan and put into kavasam. Dry it for 6 days; on 7th day put into *puda* process using wild dung cakes. There will be a fine *parpam* on the next day.

Dosage: 1 to 8 pills (mustard size) according to the requirement and body weight. It should be taken during the months except *Panguni, Aani, Aippasi*, and *Markazhi* in the river bed area *(Marudha land)*.

Adjuvants and Diseases curable:

Adjuvants:	Curable diseases
Honey	*Vatha megam*
Snow water	*Pitha megam*
Sugar	*Kapha megam*
Cold water	*Vatha* fever
Toddy	*Pitha* fever
Leaf juice of Tinospora cordifolia*(seendil)*	*Kapha* fever
Hot water	*Vatha vallai*

Curd	*Pitha vallai*
Juice of nut grass	*Kapha vallai*
Bark juice of wood apple tree	*Vatha gunmum*
Coconut milk	*Pitha gunmum*
Mother's milk	*Kapha gunmum*
Onion juice	*Vatha moolam*
Aloe's juice	*Pitha moolam*
Ganja leaves juice (Cannabis sativa)	*Kapha moolam*

*NAVANEETHA PARPAM (*Another method)

This is prepared as follows: Cow's butter (35 gm), the skin lying over the leg of the crane (70 gm), leaf juice of jujube (70 gm) and Almond ghee (70 gm) are taken and ground together for two minutes. The resultant mixture is then rolled as a ball and over this ball jujube flower and leaves of *kannuvalli* are placed and ground. It is then placed in a *moosai* which is covered and kept in the dew overnight. Next morning it is taken out and put to *puda* to get the *parpam.*

GHEE

When ghee is mixed in hot rice and eaten, it enhances the healing of peptic ulcer. It also stimulates bone marrow growth. Ghee should be eaten only after melting (liquid form)

Dried ginger, pepper, Cuminum cyminum are fried, powdered and taken along with ghee for indigestion and dysentery.

For curing stomach pain, the ghee is taken with boiled rice water, and if it is taken with palm sugar candy, it cures body heat and whooping cough.

Ghee is also used as an adjuvant for many *parpams, chendoorams, leghiums, thailams and kiruthams.*

By taking ghee bath, the burning sensation, pitha, unconsciousness, haematemesis etc. are cured.

For curing eye diseases, apply ghee on the centre of the feet before going to bed , clean it in the morning and apply sandal paste

32. ANIMAL BILE

The biles of animals such as cow, buffalo,goat.deer, pig, dog, cat, peacock,fish and snake are used as medicine. Bile has got laxative property. It is used to triturate the *vairava* pills which are useful for treating the diseases like delirium It is effective in the treatment of white leprosy and is used as follows: Vernonia anthelmintica *(kaattu cheeragam)* and dried leaves of Fumaria parviflora *(thara)* are taken in equl quantities. *Chooranam* is made and placed in a mortar. The goat's bile is then added and ground for four days and pills are made in the size of a strychnos potatorum *(thetran)* and dried in shadow. Pills are taken twice daily for three months. It is also applied topically.

It is also useful in the purification of steel.

Dried root of Trianthema decandra *(saththi chaaranai)* is placed in goat's bile. The root is rubbed in the flower juice of Tabernaemontana divaricata *(nanthiya vattam)* When the juice is used as eye drops 96 types of eye diseases are cured.

33. TIGER

All the organs of the tiger have thermogenic property. It is considered that wisdom occurs due to *pitha*; heat increases *pitha* and hence *yogis* sit on the skin of tiger.

The meat and blood of tiger are easily digestible and hence used in fatigue disease. The meat will also be useful in the treatment of delirium

Since the meat and blood of tiger are not be available always, when tiger is killed, its blood is collected in a vessel. A cloth is soaked in the blood and kept dried. Whenever required a piece of this cloth is cut and soaked in water for use. Similarly the meat is cut into small pieces, dried and kept stored for long term use

For treatment of boils occurring in the palm and sole, the meat is tied over the boils with a cloth

The fat of the tiger is applied topically for sprain and swelling etc. When a small quantity of fat is placed in banana fruit and eaten, it prevents smallpox.

For control of intractable cough occurring in whopping cough, the smoke of the fat is brought near the child, which brings out the thickened mucus.

For curing bronchial asthma, cloves soaked in tiger's bile are dried and taken 3 times a day with milk (each time one clove) for required number's of days.

The nail of the tiger is cut and placed in gingelly oil. The oil is heated and filtered; the thailam so obtained is applied over the pimples occurring on face, the pimples will disappear.

It is considered that the mustache of tiger is quiet toxic and should not be used.

The bones of male and female tigers are ground separately with the juice of Indian aloes, pills are made, dried and put to *puda* to get the *parpam*. They should be given in arrack obtained from fruits. The parpam made from male tiger will control disease due to excessive *vatha* and of the female tiger will control various diseases due to headache.

34. DOVE'S EXCRETA

When the excreta of dove is mixed with water and applied over the boils, the boils will burst out. If the excreta along with clerodendrum phlomoides *(thaluthaalai)* leaves is applied at the site of *vatha*, it controls *vatha*.

35. *PUNUGU AND SAVVADHU*

(VIVERRA CIVETTA - CIVET CAT)

Punugu is obtained from a special type of cats. These cats are present in Kerala, Africa and in South Asia. This substance is secreted by two sacs

present in between the anus and genitalia of the cat; it is of various kinds in nature and has good perfumery effect.

The Viverra civetta is used as a perfumery in hair oils:

SAVVAADHU

This is another substance obtained from another special type of cat and its property is similar to that of *punugu* (a kind of scent from the glands of civet).

Purification:

The viverra civetta is placed in sandalwood stone and washed with pure water and kept stored

Both viverra civetta and *savvaadhu* have bitter, hyperthermic, anti-convulsant and sexual stimulant properties.

Properties of *punugu*:

This can control *pithakapha* and *maandhavatha*. It will also counteract with poisons. It prolongs life and improves the shape of the body.

Properties of *Savvaadhu:*

This can control fever, headache, nasal congestion, chest disease, etc. It will also stimulate appetite and improve the voice.

Uses of Viverra civetta:

1. It is applied topically for the removal of pimples.

2. When mixed with sandal and applied over the body, it will control itching, eczema and sweating odour. It also produces a sensation of wellbeing.

3. When given at the doses of 130-260mg, it will control nervous tension.

4. Viverra civetta and *savvadhu* (a kind of scent from the glands of civet) are essential ingredients of *kasturi mezhugu* as mentioned below.

1. Musk	2. Crude camphor
3. Bezoar	4. Shore robusta
5. Civet	6. *Savvadhu*

7. Flower removed cloves
8. Piper cubeba
9. Cardamom seeds
10. Small variety of Cinnamomum verum

Mix all the above items and grind individually adding the following juices individually for three days and dry in shade. After drying , add honey and grind it and bottleup in wax form for use.

i. Juice of camphor smelled variety of betel leaf *(karpoora vetrilai)*

ii. Juice of Anisochilus carnosus*(karpooravalli)*

iii. Juice of Solanum trilobatum *(thoothuvalai)*

iv. Peel removed ginger juice

v. Pepper decoction

vi. Root bark decoction of Plumbago zeylanica *(kodiveli)*

vii. Juice of yellow variety of Eclipta prostrata *(karisaalai)*

5. The viverra civetta is also added as one of the ingredients of *maha elathi maththirai* and *nasiroga thailam.*

6. The meat of the civet cat controls the diseases occurring in hip and chest. It also stimulates appetite and sperm production.

36. *POONAGAM*

(EARTH WORM)

The earth worm is present in plenty in marshy lands. There are two types in earth worm: 1. Red coloured, 2. Light red coloured. The red coloured earthworm contains copper.

The earthworm controls severe thirst and *kapha* diseases.

Purification:

The worms are taken out after placing them in milk or buttermilk. If the lime water is poured on earth worms, they will die.

Uses:

1. The earthworms are purified, dried and *chooranam* is made. 12.6 of the *choorarnam* given in grape juice for treatment of retention of urine and calculus in the urinary tract.

2. When it is given in non-vegetarian soup, it improves sperm production.

3. When applied topically with almond ghee, it will reduce hernia.

4. When it is given with boiled gingelly oil, it cures chronic cough and throat pain.

5. When it is ground raw and applied topically the nerves which are cut will regenerate. When ground with black stone and applied topically, it will correct the dislocation of joints. It will also dissolve the blood clot caused by injury.

6 The earthworm is fried in gingelly oil along with equal quantity of dried leech. It is then applied over the penis for improving the sexual vigour.

When the earthworm is used for medicinal purposes, ghee, milk and meat should be taken in excessive quantities.

POONAGA CHENDOORAM

The earthworm purified in buttermilk is ground with the juice of Aristolochia bracteota *(aadutheendaapaalai)* and put to ten *pudas* to get the *chendooram*, which is useful in the treatment of fever due to tuberculosis at the dose of Indian liquorice size *(kundri)*.

POONAGA KARUKKU KUDINEER

Earthworm (35gm) and peacock feather (8.75 gm) are taken and burnt in a new earthen vessel. Little quantity of honey, 500 ml of water and peel of cardamom (8.75gm) are added and allowed to evaporate till ¼ th of the original volume is reached to get the *karukku kudineer* which is effective in the control of dryness of the tongue and *sanni dhosa.*

Dosage : Twice a day.

POONAGA KARUKKU

The earthworm and peacock feather are taken in equal quantity and burnt. The burnt ash 650 mg. is mixed with honey and applied on the tongue twice a day for curing dryness of the tongue and *sanni dhosa.*

POONAGA CHATHU

Purified earthworm (2 litres) is mixed well with goat's dung. Small

pills are made, dried in the sunlight and placed in a pot. The pot is covered with clay soiled cloth. The pot is heated over a hearth for twelve hours and then allowed to cool Vinegar is then added and the ingredients are mixed well with hand. The ash water is then filtered: the residue contains copper *chaththu* which is mixed with 35gm of mercury to get the shape of a ball and placed in a crucible*(kugai)* and melted along with borax; the copper will melt and will settle at the bottom; this is used for preparation of various *chendoorams.*

37. *MAYIL* (PEACOCK)

The peacocks are found in hilly lands. They are grown in houses for their beautiful appearance for worshipping and to prevent the entry of snakes into the houses. All the organs of the peacock are used for medicinal purposes.

FEATHER

It contains copper which has mucolytic properties. The feather ash is used for control hiccup. It is considered that phlegm is responsible for the production of hiccup. The fan made from peacocks feather controls vertigo and hiccup due to *pitha* .

Purification of feather

When the feather is placed in fire and made to ashes, it is purified.

MAYILIRAGU PARPAM

When the purified feather is ground with the juice of Eclipta prostrata and put to puda with 9 cowdung cakes, the parpam will be formed.

Dosages: ¼ th size of a bengal gram.

Adjuvant : Butter.

The feather *parpam* of an adult peacock feather can be useful in the treatment of *Piramippu rogadhosa* which produces dryness of mouth, hiccup and dyspnoea.

The *parpam* of young peacock feather is useful in the treatment of back pain, convulsion etc.

The *kaattu mayiliragu parpam* feather is useful in the treatment of *Agatharoga pinidhosa* which produces irregular pulse and altered taste.

The *parpam* of country peacock's feather is useful in the treatment of *Adaippuroga* which produces dyspnoea and inability to open the mouth.

Dosage: ¼ th size of a bengal gram (weight).

Adjuvant: Butter.

Use of peacock feather for removing *doshas*:

Using of cold water during illness causes heavyness in head and it aggravates *kapha*. Due to this all the seven constituents like skin, bone etc.and urine and faeces are affected besides causing severe fever. Tongue and teeth are also affected with heavy thirst and dryness.

Treatment:

Peacock's feather

Parrot's feather

Bark of Clerodendrum inerme *(sangam)*

Ashes of these three and Gloriosa superba *(venthontri)*, *thiri kadugu* (dried ginger,black pepper, long pepper) are mixed with honey and pasted on the tongue (bengal gram size) of the patient, by which the *kapha* dosha will disappear.

PEACOCK'S FLESH

The flesh of peacock controls arthritis, *kapha pitha*, etc. It stimulates appetite.

When the soup made of peacocks flesh with Rutagraveolens leaf is taken, flatulency, pain and venereal ulcers are cured.

FAT

The fat of peacock is melt and the oil is applied topically for *vatha* disease and for certain venereal affections When the fat of peacock is applied over the penis, it improves erection.

BONE

The bone of peacock is burnt to ashes and these ashes are dissolved in water and applied topically for leucoderma.

BILE:

The peacock bile is useful for grinding purpose in the preparation of medicines for delirium.

PEACOCK'S EGG SHELL

Purified eggshell is ground with the juice of Hygrophila spinosa for one day. Pills are made and put to puda to get the *parpam* which is useful in the treatment of dhosa caused by gonorrhoea.

Dosage: ¼ th size of a bengal gram.

Adjuvant: Butter.

FAECES OF THE PEACOCK

It is considered that when smoke is produced from the faeces of peacock, the snake will not enter into the houses.

38. DEER

There are three types in deer:

1. Deer 2. Stag 3. Wild deer

The horns of the deers are mostly used as medicines. Deer's meat is used as a dietary item.

The meat of deer: It controls ashtma, fistula in ano, etc. However, it causes burning sensation of eyes and *pitha.*

The meat of stag: It controls white fever and inflammation, etc. It improves sperm production and body strength.

The meat of wild deer: It strengthens the body, but causes enlargement of intestines.

KALAIKKODU OR *SIRUNGI*

(DEER'S HORN)

When taken internally, it improves the functions of lung and heart It also strengthens the body When applied externally, it has bitter property; it also reduces the heat in the testes

The horn of the stag is useful in the treatment of burning sensation of the extremities, tridhosa, excessive thirst, chest diseases and eye diseases. It is also useful in devilish people.

Purification of horn:

The horns are cut into small pieces. Each piece is split into two and the pieces are kept soaked in the juice of Agati grandiflora for one day. The pieces are then washed and dried. This process is repeated seven times to get purified.

Uses:

When the purified horn is rubbed in a sandal stone by adding hot water and the paste is applied topically, it controls sprain, chest disease, skin-crack, headache, itching of chronic skin diseases, lymphadenopathy and arthritis. The paste dissolved in old rice water is given for 4-5 days to girls to attain puberty.

When the horn rubbed in cow's ghee or honey and the paste obtained is applied in eyes, it reduces the opacities of eyes.

SIRUNGI PARPAM

(CALCINED DEER'S HORN)

Method of preparation - I

Put the rubbed horn pieces in the leaf juice of Sesbania grandiflora *(agathi)* and soak it for 24 hours and repeat the process for another 7 days.

Take purified and rubbed deer horn pieces and equal quantity of cardomom seeds and pound them using hot water as a fine paste. Make them dry in shade and put into *puda* process using cowdung cakes. On cooling there will be a fine white powder. Grind it with aloe's juice and make pills and allow to dry. Then again put into *puda* process using mud sealed cloth. Repeat the process twice and collect the *parpam* for use.

Dosage: 195 mg. to 585 mg.

Disease cured: Diseases caused due to over heat.

Method of preparation - II

Cut the deer's horn into four pieces and again cut them into small pieces and put them in the juice of Acalypha indica *(kuppai meni)* and soak

it for 24 hours. Grind the leaves of Acalypha indica and make *kavasam* and dry it. Then put into *puda* process using mud sealed cloth and 50 cow dung cakes.

Again grind it using cow's milk and put into *puda* process and collect the *parpam* for use.

If the *parpam* is taken with *pavala parpam* with suitable adjuvants, the diseases like dysuria,vesicle calculus,stricture of the urithera, anuresis, asthma, tuberculosis, cough,heat and venereal heat are cured.

Method of preparation - III

The pieces of stag horn are made into paste by rubbing with water and kept soaked in the juice of Coccinia indica for one day. It is dried on the next day and placed in a brick shell covered with clay soiled cloth and put to *puda* with 50 dung cakes to get the *parpam.*

Adjuvants: Honey or cow's ghee or cow's butter.

Curable diseases: As said before.

Method of preparation IV

The purified horn is ground with the juices of Acalypha indica *(kuppaimeni)*, Mukia maderaspatana*(musumusukkai)* and Daemia extensa *(velipparuthi)*. Pills are made, dried and put to *puda* to get the *parpam.*

Dosage : 130-195mg.

If this *parpam* is ground along with borneo camphor (32 mg), mixed with ghee and taken internally, it controls severe chest disease.

If the parpam is given with *vallarai* ghee, bone fever and cough are cured.

If it is given with white of hen's egg thrice daily, it controls haemoptysis.

39. *MINMINI POOCHI* FIRE FLY)

When the insect is placed in jaggery and taken internally for three days, it cures night blindness, as said in the following lines:

" துன்மினிப் பூச்சி தன்னை
அமுதினுள் வைத்தி ரவினில் நீ விழுங்கிடல்

நின்னயத் துடனோர் மூன்று
இரவே நீ விழுங்கிடிலோ விழி மாலைபோம்".

40. *MUSURU MUTTAI*

(RED ANT'S EGG)

The eggs are collected from the ant hills. The ants, usually live in the trees such as mango and Madhuca longifolia(*iluppai*). The eggs can control *mahavatha*, dullness, convulsions, five types of pain, *kapha* associated with cold and delirium.

MUSURU MUTTAI ENNEI

The red ant's egg is ground with equal quantities of Coscinium fenestratum(*maramanjal)*, Clitoria ternatea*(kaakkataan)*, Nigella sativa *(karuncheeragam)*, Vernonia anthelmintica *(kaattu cheeragam)*,Hemidesmus indicus*(nannari)*,sandal, Costus speciosus *(kostum)*, rock salt, dry ginger, pepper, piper longum and Acorus calamus*(vasambu)* by adding the juice of Adathoda vasica. The *kalkam* is obtained. Gingelly oil, juice of Adathoda vasica and breast milk are added to the *kalkam*. The ingredients are heated and the *thailam* is obtained which can be used as an eyelid paint and as a liniment.

Curable diseases: Fever, fainting and *vatha*.

41. *MUTTAI ODU*

(EGG SHELL)

The egg shells of hen, kite, parrot, crow, quail and peacock are often used for medicinal purposes.

Purification of egg shell:

The egg shells (1400 gm.)are purified by placing them in river water(3 litres) in which sodium chloride (500ml) is dissolved. The water is heated till its volume is reduced to one-third. After cooling, the inner membranes of egg shells are removed The egg shells are then washed in water and dried in sunlight to get purified.

MUTTAI ODU PARPAM

The egg shells are ground with the juice of Hygrophila auriculata *(neermulli)* for one day. Pills are made on the next day and dried. On third day, they are put to *puda* and on fourth day, the *parpam* is obtained after cooling.

The preferred dose of the parpam is equivalent to the size of a bengal gram (weight).

Adjuvant: Butter.

Parpams	**Curable diseases**
Hen's egg	Bones fever, fainting
Kite's egg	Tuberculosis, vomiting
Parrot's egg	Gonorrohea.
Crow's egg	Abdominal distension, leprosy
Quail's egg	Heat diseases, heart attack
Peacock's egg	*Kapha* diseases,delirium

42. *MUDHALAI*

(CROCODILE)

In practice the meat of crocodile is given to children for control of whooping cough, since it has mucolytic properties.

Crocodile dried meat is available in the market. The meat heated in fire is given to children for control of whooping cough as well as *vatha kapha.*

43. *MUTHU CHIPPI*

(PEARL OYSTER SHELL)

The Oyster shell in which pearl is formed is taken and boiled with salt. The flesh is taken out and eaten along with pepper, which is of highly nutritious value. It has bitter. anti-inflammatory and appetite stimulant prop-

erties. This may be given for people who are suffering from pulmonary and *soolai* diseases; it also strengthens the heart.

MUTHUCHIPPI PARPAM

The pearl oyster shell is burnt for five to seven times and washed in clear water obtained by mixing limestone and fuller's earth(*pooneeru)*. It is then ground with the juices of Adathoda vasica. Vitex negundo and Curculigo orchioides(*nilappanai)* individually and put to *pandri puda* to get the *parpam.*

Muthuchippi parpam is useful in the treatment of all disease conditions where the pearl *parpam* is used.

44. *MEZHUGU* (BEES WAX)

The Bees drink the honey and produce the wax. The bees wax are present in the honey cake developed by the bees. The honey cakes are collected, cut into small pieces and placed in a vessel. The inner surface of the vessel is painted with coconut oil. The vessel is placed in an another vessel containing hot water. The honey wax melt and becomes like a paste. This paste is poured in casts. After cooling the wax is taken out which will be yellow in colour with the smell of honey. It is not soluble in water.

Wax is mostly used in the preparaton of external medicines such as *thailam, kalimbu* and plaster. It has anti-inflammatory property. It reduces swelling, controls *kapha* disease, scorpion bite and leprosy. For treatment of scorpion bite, it is smoked by placing it in *Gutka.*

In wood industry, the wax is used for coating in wood before painting.

MEZHUGU KALIMBU

Wax is melted with equal quantity of coconut oil, filtered and applied over the wounds.

Yellow wax one part is mixed with four parts of honey and melted in fire and then filtered. The filterate is useful for curing the chronic ulcers.

MEZHUGU THAILAM

Yellow wax (1,400gm), *sakkikal* (1,400gm), white salt (1,400gm), river sand (700 gm), bishop's weed (175 gm), dark turmeric (175 gm) and fragrant *sadamanjil* (8.75 gm) are taken and placed in a vessel having a long neck The mouth of the vessel is covered by another small vessel. Clay is applied around the mouth of the vessels. Two holes are made in the centre of the vessel and the upper hole is covered by a brick shell. The vessel is heated over a hearth for nine hours; the *thailam* will settle down.

Uses :

The *thailam* is effective in the control of convulsions occurring in children. It is also effective in reducing the swellings caused by injuries and to improve sexual activity in men and women. When a cloth soaked in the thailam is tied around the extremities, the muscle fatigue will disappear.

PINDA THAILAM

Honey wax (2½ parts), shorea rubusta(white variety - 2½ parts), Rubia cordifolia *(manjitti)* (5 parts), Indian sarasaparilla (5 parts) and gingelly oil (100 parts) are taken. Rubia cordifolia and Indian sarasaparilla are powdered well and seived in a fine mesh wire so that the fine powder and big particles are separated. *Chooranam* is made from the fine powder and a decoction is made from the big particles. The chooranam is ground with rice washed water and made into *kalkam*. The *kalkam* is then dissolved in decoction and gingelly oil is added to it and heated on a hearth. When waxy consistency is obtained, the vessel is taken out from the fire. Shorea rubusta is powdered and the wax is cut into small pieces and placed over a cloth; the *thailam* is filtered out through this cloth and bottled up.

This *thailam* is used as a topical application for various types of *vatha* roga, (rheumatic pain). It also gives colour to the skin and is useful in the treatment of cracks in feet and also for the black spots occurring in face.

CHANDRA KALA LEPAM

Ingredients:

Camphor	I part
Yellow wax	I part

White pepper	½ part
Coconut oil	4 parts

Method of preparation:

The wax is mixed with the coconut oil, melted and then filtered thrice The camphor and white pepper are powdered and mixed with the above filterate. After cooling it becomes to waxy consistency. This lepam is applied topically for the treatment of head disease, body pain and dropsy.

45. ELEPHANT

Elephants live abundantly in the forests of India, Burma and Africa. Elephant's milk, urine and tusk are used as medicine. The faeces of baby elephants are also used for medicinal purposes.

When the urine of elephant is mixed with the salt prepared from Tinospora cordifolia *(seendil)* and if taken internally, it controls 18 types of leprosy, elephant eczema and severe pulmonary diseases.

ELEPHANT TUSK

The *parpam* made from the elephant's tusk is effective in the treatment of infertility in women. It is also effective in the treatment of jaundice.

The preparation of this *parpam* is similar to that of *maan kombu parpam.*

Dosage : 295 to 945 mg.

The burnt tusk is powdered and mixed in honey and applied topically for the treatment of aloepecia.

The tusk is soaked in water and rubbed on the sandal stone by adding water. The paste so obtained is dried and kept stored as powder. This powder is ground with equal quantites of red ochre and curcuma aromatica adding honey. The paste is applied for the treatment of burns and ulcers.

The tusk is also used as one of the ingredients of medicaments used for eye diseases.

KANDIL VENNAI

The first faeces passed out by a newborn elephant is dried which is known as *kandil vennai*. It has got mucolytic and diuretic properties. It gives shiny appearance to the body and is effective in the treatment of chest phlegm, pulmonary diseases and dysuria as evidenced by the following Tamil verse:

"கண்டில்வெண் ணெயைக்கேள் காந்திப்ர தரபமுமாத்
தொண்டையினுண் ணீர்க்கட்டு தூரிருமன் - மிண்டிவரு
நீர்க்கடுப்பு மூலத்து ணீர்க்குத்த லும்போக்கும்
பார்க்கு ணறியப் பகர்".

(Pathartha Guna Cinthamani)

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DEFINITION OF SIDDHA TECHNICAL TERMS

Akkini :

The Tamilians reckon 3 kinds of fire which are used in preparing medicines and they are

1. Kamalaakkini : A small fire glowing like bymphae or lotus flowers.
2. Deepaakkini : A moderate fire spreading out flames.
3. Kaadaakkini : A great fire, conflagration.

Chendooram:

It is difficult to calcify minerals into red or white powder. Even if prepared they don't act properly on diseases. To prepare Gurumarunthu which is capable of curing all diseases and transmuting base metal into gold is very impossible. To prepare such medicines drugs must be purified, and minerals must be consolidated.

Preparations made according to alchemical process can be used as medicines but it is very difficult to prepare them.

1.Linga paashanam (Red arsenic)

2.Sivappu marunthu (any red chemical preparation)

3.Pudamitta Sindoora marunthu (Calcined red oxides)

4.Vanga Chendooram (Red oxide of Lead)

5.Rasa Chendooram (Red oxide of Mercury)

1. Variety of Chendooras:

1. Annabedhi chendooram (Red calcined powder of steel)

2. Appiraga chendooram (Red calcined powder of mica)

3. Appiraga veeya chendooram (Red calcined powder of lead extracted from mica)

4. Aya chendooram (Red calcined powder of iron)

5. Ayachavalai chendooram

6. Ayakantha chendooram (Red calcined powder of iron and lead stone)

7. Ayaveeya chendooram (Red calcined powder of lead extracted from iron)

8. Eema rasa chendooram (Red calcined powder of gold and mercury)

9. Eghu chendooram (Red calcined powder of sulphate of iron)

10. Gandhaga chendooram (Red calcined powder of sulphur)

11. Gowri chendooram (Red calcined powder of gowri)

12. Kaantha chendooram (Red calcined powder of lead stone)

13. Kalluppu chendooram (Red calcined powder of rock salt)

14. Kalnaar chendooram (Red calcined powder of asbestos)

15. Kareeya chendooram (Red calcined powder of lead)

16. Kuligai vedai chendooram

17. Linga chendooram (Red calcined powder of cinnabar)

18. Linga kattu chendooram (Red calcined powder of consolidated cinnabar)

19. Linga thara chendooram

20. Mahakaya karpa chendooram

21. Manosilai chendooram (Red calcined powder of red orpiment)

22. Naga chendooram (Red calcined powder of zinc)

23. Naga kalangu chendooram (Red calcined powder of zinc amalgam)

24. Nimilai chendooram (Red calcined powder of Bismuth)

25. Pancha Bootha chendooram

26. Poora chendooram (Red calcined powder of subchloride of mercury)

27. Rasa chendooram (Red calcined powder of mercury)

28. Silasathu chendooram (Red calcined powder of silajath)

29. Thalaga chendooram (Red calcined powder of yellow orpiment)

30. Thalaga Eeya chendooram (Red calcined powder of consolidated yellow orpiment)

31. Thamboora chendooram (Red calcined powder of copper)

32. Thanga chendooram (Red calcined powder of gold)

33. Thirikuligai chendooram

34. Thirivanga chendooram (Red calcined powder of three leads)

35. Thurusu chendooram (Red calcined powder of copper sulphate)

36. Uppu kattu chendooram (Red calcined powder of cosolidated salt)

37. Vediyuppu chendooram (Red calcined powder of salt petre)

38. Veera chendooram (Red calcined powder of perchloride of mercury)

39. Velleeya chendooram (Red calcined powder of tin)

40. Velli chendooram (Red calcined powder of silver)

2. Variety of Chendooras

1. Black chendooram (Oxidum nigrum)
2. Yellow chendooram (Oxidum flarrum)
3. Red chendooram (Oxidum rubrum)
4. Cheena veera vaippu chendooram

5. Thiriloga chendooram (Red oxide of three metals)
6. Naga kattu chendooram (Red oxide of consolidated zinc)
7. Kaya karpa aya chendooram
8. Citigai chendooram
9. Ayakattu chendooram

Dhravagam :

Dhravagam is acid which is sharp and extremely sour. It consists chiefly of two kinds viz. mineral acid and vegetable acid; the former is generally stronger than the latter. It is corrosive and acid to the taste; stronger acids cause blister when touched or coming in contact with. It combines with water in every proportion with evolution of heat, volatilised or decomposed t a moderate heat; changes the purple colours of the vegetables to a bright red. When mixed in definite proportions it forms salts. In native medicine it is mixed with drugs ground well and calcined to obtain metallic oxides. It forms an important ingredient in the preparation of metallic red oxides and carbonate for use in Alchemy. It is best prepared by the western method.

Icha pathiyam (non restricted diet):

1. Strict diet in which is taken only substances prescribed by the physician himself.

2. Taking articles of fare other than those prohibited by the physician.

3. Ordinary mild diet in which the use of mustard, gingelly oil and co-habitation are prohibited. This is generally prescribed after treatment.

Kalangu :

A pill prepared from several metals with mercury as chief ingredient.

Kalangu murai :

i. The method of process of converting metals (in alchemy) into a reducible mass.

ii. To agitate a metal by splitting or separating it into divisible atoms.

Kapha (Ayyam) body:

In which phlegmatic humors prevail, causing pulmonary diseases, dryness. (Vatha body, Pitha body, Kapha body - Winslow P.No.415)

Karasaaram : A preparation consisting of all the six different tastes.

Kudineer (Decoction) :

Kashayam - The water in which drugs or other substances have been boiled.

Kudi Thailam - A medicated oil taken or administered internally.

Kattu:

The art of consolidating substances (in alchemy) which readily pass off into vapour in fire.

Kattu Sarakku :

Minerals or substances which are consolidated with the aid of acids, alkalines, and compounds of salt, by burning, heating or calcining, according to the process laid down in the Tamil Alchemical works and they are :- mercury, sulphur, nitre common salt, sal ammoniac, borax, alum etc.and the 64 poisons prepared out of arsenics like orpiment, realgar etc. They are useful in Tamil Medicine.

NOTE- The substances which cannot withstand the heat of fire can easily be consolidated by secret processes laid down in Siddhar's works, if they are only carefully studied and properly znterpreted and made use of.

Kavasam- Kavasam kattal :

To close or cover the lids or mouths of vessels containing medicine with clay or any tenacious substance for rendering it air tight before exposing it to fire for purposes of calcination.

Kugai : Crucible.

Kugai Pudam :

Calcination with the aid of a crucible of metals such as gold, silver, copper etc. for converting them into oxides and red-oxides, according to the process contemplated in Tamil Medicine or for fixing up volatile substances for purposes of consolidating or otherwise altering them into alchemical compounds as methods of Alchemy contemplated in Siddhars' Science.

Maaranam :

1. Causing death by magic or witch craft.
2. Changing minerals into something else chemically by some special process.

Maarana vedhai :

A process in alchemy by which minerals are transmuted into gold after destroying their properties.

Moosai : Mann Kulagu -Crucuble(T.V.S.Dictionary - Vol. .No.875 .)

Moosai Mann - Clay fit for soaking crucible

Muppu :

The salt from the fuller's earth is found to have three parts. They are separated and again combined to form Muppu.

Paadaanam : (Poison)

Poison is defined as any substance which when applied to the body brings on destruction or danger or disturbance to life; and this may be caused in several ways- either by administration or introduction, inhalation, infection etc. or in any other way developed within the body causing damage locally or producing any morbid condition.

In Medicine, poison is divided into two kinds viz-vegetable poison and mineral poison, the former is not so very virulent or dangerous than the other. In medical practice medicines are prepared and prescribed for diseases. However expert be the physician, he should be very careful in handling poisons not with standing their nature. He should possess clear idea as regards the properties, the process of preparing them and administering to the patients taking care that the prescription is agreeable or suitable to the patient's condition of health, which may require long experience and knowledge of the physician. Dealing with poisons is in no way better than that with snakes. It is only in Tamil Siddha Medicine that elaborate processes are given about poisons (mercury, sulphur, arsenical, alkaloids). Not only this but also the places where such poi-

sons are likely to be found in India, the process of their pharmaceutical preparations and their uses etc. Poisons are generally divided into two kinds-Native and Synthetic- Native and Synthetic each subdivided into 32 kinds.

Arsenic is a steel grey metal with brilliant lustre very brittle and tarnishes on exposure to the air; sublimates at a temperature below fusing point and gives off colourless fumes with a garlic like odour. Unani Doctors (Hakim)do not give arsenic internally but Tamil Siddha Vaidyans have for many Centuries given white oxide of arsenic in very minute doses with aromatics to check obstinate intermittent fevers, also in glandular affections tendency to apoplexy and in leprous complaints and elephantiasis. To powder arsenic inerts substitute of alkaline sulphurata or of soap of vinegar (Ghadi) are used. Some of these poisons are still used by Siddha Physicians viz. realgar(Manosilai), yellow orpiment(Thalagam), mercury (Sootham), golden coloured arsenic(Gowri), corrosive sublimate (Savveeram), vermilion (Lingam), White arsenic (Vellai paadanam), rat's bane (Rat paadanam) etc.

PANCHA SOOTHAM :

Rasam : (Quick silver or Mercury-Hydrargyrum(Hg)

It is obtained from the mines of Gayana, Mexico, California, Spain and other places, but obtained in large quantities from China and Japan both in its native state and combined with sulphur as cinnabar or red sulphide of mercury. No medicine is so often found adulterated as mercury. Impurity will be seen by its dull aspect, by its tarnishing and be-

coming covered with a gray film and by its diminished mobility. It is commonly adulterated with lead, bismuth, zinc and tin. It is a brilliant white metal resembling melted silver and is a liquid at its normal temperature.

On account of its impurity, Vaidyas of our country use it in medicines after the purifying of it as per process laid down in the Tamil Medical Science.

Although the Westerns are much more advanced at the present day in the manufacture and use of mercurial compounds than the Tamil practitioners, yet from the works of Siddhars on Pharmacy and Materia Medica, it is evident that they are not in any way inferior to the former, although their pharmaceutical operations may be considered crude and unscientific by the present generation. In Alchemy, Rejuvenation and Yoga philosophy they in fact, excel all the other nations. Siddhars were apparently proficient in all branches of science in early ages and were the greatest Scientists of the day. Their works show the handling mercury to great perfection. They manufactured beads, pills and universal solvents from mercury and were playing miracles using them.

The native Vaidyans make several preparations of Mercury and they are:- Muriate of Mercury, Carbonate of Mercury, Red precipitate of Mercury, Sub-chloride of Mercury, a glutinous semi-solid mercury(resembling colloid mercury) , Mercury paste or Mercury ointment etc., and they are used in diseases such as Anasarca, Ascites, Apoplexy, venereal diseases in general and leprosy. Our Alchemists seemed to have prepared several powerful compounds of mercury and used them in Alchemy and Rejuvenation. So it is well known that the Tamilians were

aware of the uses of this metal from a long time and much earlier than the Arabs and the Greeks, Konganar, Bogar and other Siddhars have written several treatises on preparation of mercury and their uses in Medicines-Alchemy and Yoga.

In Sanskrit, the most celebrated works are :- Rasa Ratna Samuchayam, Rasa saram and Rasa ratnakaram and they seem to bear no comparison to the Tamil works when considering and subject of Alchemy and Rejuvenation.

NOTE:- 1. Mercury means life. It is supposed to produce gold from base metals. It is called the expeller of diseases. It occupies a central place in Siddha Medicine and it is this which could make the body resistant and immortal.

NOTE:- 2. The marked effects of Mercury on the system is known as mercurial ptyalism. - a swollen and ulcerated condition of the gums, attended with copius salivation. It is occasionally employed in the form of fumigation- which should be applied continuously by means of an appropriate apparatus.

NOTE:- 3. In Konganavar's work on Alchemy will be found the 10 processes of animating mercurial pills which seem to have supernatural powers.

Rasa Chendooram : (a kind of red precipitate of mercury-. Hydrargum Oxidum rubrum)

It is prepared by Veidyans in the following manner. 10 pagodas weight of Zinc is first melted in an earthen pot in a sand bath, after which 10 pagodas weight of mercury is added to it; 2 1/2 pagodas weight to blue vitriol and 20 of Nitre are then to be reduced to a fine powder, which is

to be sprinkled over the metal, at the same time stirring the whole with the root of the plant called Amaranthus campestris (Siru keerai). This having been done, the heat of the sand bath is to be increased and the process continued till such time as the Rasa Chendooram is formed. (Ainslie).

NOTE : Red precipitate of Mercury as prepared by the Tamil Vaidyans is used as an escharotic and for cleaning ful ulcers.

Lingam (Cinnabar) :

In Chemistry, the one artificially prepared from sulphur and mercury, is of a beautiful red colour. It has also the same appearance and property, but consists of needle shaped fibres. In a powdered state, it is called vermilion. It is insoluble in water and has no smell or taste but has therapeutic virtues. Mercury extracted from this, is considered pure and is much esteemed by Tamil Vaidyans who use it in the preparation of medicines.

The method of preparing Cinnabar according to the rules prescribed in Tamil Medicine. The following is the method of preparing it, as laid down in Agathiyar's "Poorana sutram".

1. 12 Pagodas weight of sulphur is to be put into an earthen pot, and fused over a slow fire; when in a state of fusion, 80 pagodas weight of mercury must be added to it, and the whole kept gently stirred until it is reduced to a black powder. Again, 12 pagodas weight of sulphur and 4 pagodas weight of pewter or powder (lit silver lead) cut into small pieces, are to be added to the black powder, and to the whole is to be added the same quantity of salt petre. All of these are to be put into a bottle(kuppi) which must be sufficiently large to contain the medicine in the half of it. The bottle (kuppi) is then to be covered and coated air-tight with clay in the most perfect manner.

An oven is now to be made in the ground over the mouth of

which is to be put a broad hollow earthen pot and in this pot is to be placed the said bottle(kuppi) containing the medicines, which is to be next covered over with sand up to its neck. The fire is to be kindled and kept burning for 12 hours, after which the kuppi is to be removed and kept till it is cooled when it may be broken, and in the neck of it, will be found collected, the required Cinnabar in a lump.

2) As laid down in Matcha Muni 800, the following substances are employed in the preparation of Cinnabar, but the process adopted in the same as mentioned in (1)

Mercury pewter or powder (silver lead), black lead, and guru(universal solvent) are to be taken in equal weight and to the whole is to be added 1/2 the quantity of alum. If this is burnt for 3 hours, Cinnabar will be found collected.

Pooram : (Subchloride of mercury)

Its preparation given in Matcha Muni 800- Salt petre, alum, borax equal parts, grind well, mix well with sandalwood decoction to the consistence of gruel and cubeb powder and lute well and bury under the earth for forty days.

Veeram : A medicinal drug - Perchloride of mercury.

Veera kattu:

1. A lump of per chloride of mercury is inserted into the Bael fruit, and luted with clay and cloth; then calcined in sand bath; repeat the process 9 more times; the perchloride gets consolidated.

2. Styrax benzoin and sulphur are taken in equal parts and powdered.The two parts of this mixture is method, and 1 part of perchloride is put into that melting powder and roasted.The perchloride gets consolidated it and be used as medicine.

3. Perchloride of mercury is melted and formed into a ball by adopting the following method, Copper sulphate and alum are taken in equal parts and powdered. Make it into three parts. Take one part and melt it in an earthen dish, and put into it an equal part of the perchloride in one lump and roast it; repeat the process twice more. Then equal part of camphor and cover the perchloride with this camphor and burn it. The chloride melts and forms into a ball.

Parpam : (Calcined Powder)

An oxide white powder derived from mercury and mercuric compounds metals and gems, uparasas or natural substances described in Siddha medicine by grinding them with either the juice of the herbs or plants, essence of highly concentrated pungent salts or liquids acids or alkalies etc. luting them with clay air tight and then subjecting the same to the process of various calcination adopted for calcining medicine into oxide as Parpa murai.

(a) calcining a metal or metallic compound in a closed vessel or pot by luting it with clay so as to keep it air tight and then burning it with the required cow dung cakes according to the strength of the medicine enclosed in the vessel.

(b) calcining the medicine by securing the medicine in question in said bath after luting it air tight as described in (a) and then heating it indirectly.

(c) *calcining the medicine with the help of the subliming* apparatus.

(d) calcining medicine by enclosing it in a gold smith's crucible and

then biting it air tight and heating it by blowing with a pipe just in the same way as is done in the case of melting gold or silver by keeping it in the chafing dish.

(e) after enclosing and luting the medicine in a crucible air tight and then adopting the melting process in a black smith's forge or furnace by blowing it with one or two bellows according to amount of heat required for calcination.

Note : This white powder of metallic oxides in peculiar to the Tamil Siddha Medicine as no such kind is procurable in other systems of Medicine. It is a compound infinitely superior marvelously potent and radically more effective than the vegetable medical preparations- Chooranams, pills, decoctions, electuaries, syrups, oils, ghees etc. They are so very strong that it is always advisable to prescribed it to patients in minute doses, moreover it should be handled by an able, experienced and expert physician lest they may lead to dangerous consequence.

Following are the various kinds of Parpam s named according to the chief ingredients:

1.Thanga parpam	2.Velli parpam
3. Thamboora parpam	4.Velvanga parpam
5. Karuvanga parpam	6. Naga parpam
7. Linga parpam	8.Poora parpam
9. Kendhi parpam	10.Thalaga parpam
11.Pashana parpam	12.Lavana uppu parpam
13.Pavala parpam	14. Muthu parpam
15. Sangu parpam	16.Pancha lavana parpam
17. Kal naar parpam	18.Kaadikara parpam.

19.Venkara parpam	20.Palakaraiparpam
21.Mankombu parpam	22.Aamai oottu parpam
23. Poonaaga parpam	24. Kaya singhi parpam

Pitha (Azhal) body :

In which the bilious humors preponderate, causing thinness, emaciation, fretfulness, heat.(Vatha body, Pitha body, Kapha body)

Pittu :

This is given to girls who has just matured to strengthen their uterus; when eaten by males it increases wind humor.

Pittavithal:

Heating substances in the steam in a special apparatus .

Pittaviyal :

To squeeze after heating in the steam- this is done to extract juice from the leaves of betel, ocimum (Holy basil)etc.

Pooneeru (Fuller's earth)

Efflorescence grows, in clusters and bursts out into flower at new moon or full moon nights during dew seasons- January to March on the soil of fuller's earth. When the sun rises it turns to fine powder and falls down. It is useful in alchemy. Universal salt Muppu can be prepared with the efflorescence and with cuttle fish bone.

Variety of Pooneeru:

1. Nilaveeriyam (Fuller's earth)
2. Vellai Savuttuppu (a kind of white salt extracted from the

ashes of the burnt sea side plants)

3. Uvar mann or Uzha mann (Washerman's or dhoby's earth)

4. Salt which frees the juice from leaves which are otherwise

5. Pennadi (menstrual blood)

6. Pindamaa karu (essence of foetus)

Following are some of them:

Mayurapoodu; Boominatham ; Panchabootha uppu; Piruviyadhi and Puviyantharangam.

Pooram : (Subchloride of mercury)

Its preparation given in Matcha Muni 800- Salt petre, alum, borax equal parts, grind well, mix well with sandalwood decoction to the consistence of gruel and cubeb powder and lute well and bury under the earth for forty days.

Pudam : (Calcination)

The dimension of the pit to pile up cowdung cakes for purpose of calcination. In calcinating medicine different measures are given according to the drugs used in the medicine. The measure is measured by the number of cow dung cakes (Varatti) used for the calcination.

1. **Gaja pudam** : A square pit of one cubit broad and one cubit depth to contain 1000 cowdung cakes.

2. **Varaga pudam** : A square pit of one foot broad and one foot high (the height of a pig) to contain 150 to 200 cowdung cakes.

3. **Kukkuda pudam** or **Kozhi pudam** : A pit to hold eight cow dung cakes.

4. **Kovura pudam** : Calcining in an earthen vessel filled with small pieces of cowdung scraps or gathered from a cowpen.

5. **Paanda pudam** : Roasting in a crucible by inserting it in an earthern vessel filled with paddy chaff (husk) with its mouth tightly closed.

6. **Sooriya pudam :** The process of exposing medicated oil etc. after covering the mouth of the container for purposes of drying it completely (or to bring about chemical combination)by the heat of the sun for a specific period but it is generally done for 40 days. It may be exposed for a lesser period according to the nature of the medicine exposed-Insolation.

7. **Gana pudam** : Calcination under a moderate heat.

8. **Ner pudam** or Paddy pudam : A process or method of purification of prepared medicines and medicated oils which are kept buried under heaps of one year old paddy for a period of forty days.

9. **Mud pudam:** A process or method in which the prepared medicines (Internal as well as external) have to be kept in a pit (prescribed height, breath and length may vary depending) in prescribed days in the ground or mud (such as lotus pond).

10. **Panchanga pudam** : Calcination satisfying the five conditions required.

12. **Chandra pudam**: The process of exposing prepared medicine (internal as well as external) after sealed air tightly (by using mud pasted cloth) in a container for the purposes of drying, magnifying its strength and finished it completely (or to bring about chemical combination) by the power of the moon (lunar rays power) for a specific period but it is generally done for 40 days. It may be exposed for a lesser period according to the nature of the medicine exposed to moon.

Thailam :

In Tamil medicine a medicated oil prepared as per method described

below-green herbs are well pounded and the juice is pressed out either separately or conjointly as occasion requires the dried drugs sold in the bazaars are cleaned boiled in water as per rules and the decoction derived there form is separately kept the juice and the decoction above mentioned are mixed with the gingelly oil which is generally one fourth of their total quantity.

Sometimes drugs are ground with the decoction and added to the above mixture and boiled. When it is sufficiently boiled and comes to the stage required it is decanted to another vessel where very soft auromatic substances like saffron civet, flowers of a screw pine are kept. The sediment also is filtered and bottled. According to its use it is divided into five kids.They are :

1. **Mudi Thailam :** Oil used for bathing or applied the head to hasten the growth of the

hair and turn it black.

2. **Kudi Thailam** : Oil that is taken internally.

3. **Pidi Thailam :** Oil that is applied externally and massaged or fomented.

4. **Thulai Thailam** : Oil that can be used to be put into any of nine openings in the body e.g. oil used for Vasti(enema) ear drops, eye drops, gargling etc.

5. **Seelai Thailam :** Oil steeped in lint or piece of cloth and used for ulcers and wounds.

Uparasam :

Uparasa Sathu :

Literally it implies the highest essence of a natural body according to the alchemists; hence and extract from anything, containing its vir-

tues or the most essential parts in small quantities-Quintessence. In Tamil Medicine, it is the quintessence extracted from any of the one hundred and twenty kinds of natural substances by an alchemical process.

Uparasa Sathu Gunapadam :

The science which treats both of the chemical and the alchemical properties of the quintessences obtained from the mineral substances and other natural substances of the animal kingdom, and teaches us to characterise, distinguish and class them according to their properties.

Vatha (Vali) body:

A constitution in which flatulent humors prevail, causing bloatedness.(Vatha body, Pitha body, Kapha body - Winslow Tamil-English Dictionary P.No.415)

Veeram : A medicinal drug - Perchloride of mercury. (T.V.S.Dictionary Vol.V- P.No.1174) .

Veera kattu:

1. A lump of per chloride of mercury is inserted into the Bael fruit, and luted with clay and cloth; then calcined in sand bath; repeat the process 9 more times; the perchloride gets consolidated.

2. Styrax benzoin and sulphur are taken in equal parts and powdered. The two parts of this mixture is method, and 1 part of perchloride is put into that melting powder and roasted. The perchloride gets consolidated it and be used as medicine.

3. Perchloride of mercury is melted and formed into a ball by adopting the following method, copper sulphate and alum are taken in equal parts and powdered. Make it into three parts. Take one part and melt it in an earthen dish, and put into it an equal part of the perchloride in one lump and roast it; repeat the process twice more. Then equal part of camphor and cover the perchloride with this camphor and burn it. The chloride melts and forms into a ball.

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